

UNIVERSITY OF KALYANI
DEPARTMENT OF PHYSICAL EDUCATION

SYLLABUS OF COURSE WORKS FOR Ph.D.

SUBJECT : SPORTS BIOMECHANICS

PAPER : ~~IV~~^V (Optioal)
Full Marks -50

A: THEORETICAL (26)

- I. Introduction to the field of Methods of investigations in Sports Biomechanics; - 2
- II. Measuring Time (t) and Distance (s); Drawing Time-Distance (s-t) curve; Analyzing (s-t) curve. -2
- III. Measuring Velocity (v) and Acceleration (a); Drawing (v-t) and (a-t) curves, Analyzing (v-t) and (a-t) curves. -2
- IV. Photographic method of movement analysis:
 - Single plate photography; -2
 - Movie -2
- V. Cinematographic and Videographic methods: Principles, methods of recording, -2
- VI. Methods of Analysis – Qualitative and Quantitative; Detailed about qualitative analysis - 2
- VII. Quantitative analysis: Manual analysis and analysis using analysis software; Manual analysis – Projection of recorded movements, drawing of Kinegrams, collecting relevant data from kinegram - 6
- VIII. Analysis of movement using analysis software – basic principles, using analysis software to collect data. - 4
- IX. Analysis of data. -4

B: PRACTICAL (24)

- I. Recording of movements using cameras; -8
- II. Manual analysis of movements; -8
- III. Analysis of movements using software. -8

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SYLLABUS OF COURSE WORKS FOR Ph.D.

SUBJECT : REVIEW OF LITERATURE

PAPER : II (Compulsory)
Full Marks -50

A: THEORETICAL (25)

- I. Nature and scope of Review of Literature; Need and Importance of Review of Literature in research; ^{Hours} - 4
- II. Principles of selection of literature: Relevancy, Time of research, Country and place of research, level of investigation, source of literature etc. ; -4
- III. Types of literature survey: Library technique, Internet surfing; Detailed methods of each type. -8
- IV. Procedure of recording literature; ~~APA~~ — -5
- V. Writing of Footnote/ Bibliography; APA, ICNIR technique - 4

B: PRACTICAL (25)

- I. Review of related literature for Three identified problems/areas selecting one from each of the subjects – Exercise Physiology, Sports Biomechanics, Sport Psychology. - 3x 9
- II. Prepare a Practical Note Book

UNIVERSITY OF KALYANI

SYLLABUS FOR COURSE WORK OF PH.D. PROGRAMME

SYLLABUS THEORITICAL

COMPUTER APPLICATION

1. Computer Appreciation: Introduction to characteristics of a computer, short history of computer, Generation of computers, Classification of Computer, Application of Computers, Computer Architecture and Organization, personal Computer, Different devices in a Personal Computer, Concept of Hardware and Software, Concept of operating system, computer language, Networking Concepts.
2. Introduction to Disk operating system (Dos): Concepts of loading Dos, concepts of file, Directory, changing directory, creating New directory, Copying files Deleting files, Changing file name, Formatting etc.
3. Concepts of Windows: Starting windows, The Desktop, Maximizing, Minimizing Reporting and Closing a window, Using start Menue, Logging off and shutting down windows.

MS Word: Starting word creating a document, Saving the Document in a Disk file, Printing a document, Reserving and closing a document, Creating a new document, exiting word, editing a document, Copy Cut and Paste, Formatting Text, Checking Spelling and grammar etc.

Excel: Starting Excel, excel screen, Entering information, Number Values, Formula in worksheet, saving a worksheet, Editing data in a cell, Changing column width, Creating a new worksheet, Closing of a worksheet, Using chart Wizard to create a chart.

4. Power point: Introduction to Internet and e-mail:- Concept of internet, internet connection wizard, web Browsers, Internet explorer, jumping to links, viewings a specific web Page selecting a home page, controlling contents for viewing, searching for information, E-mail, sending & forwarding a message, Active desktop, channels, Net meeting, Front Page Express.
5. Introduction to Programming: Writing some simple programs in Basic or C language. Computerization of different problems related to physical Education using suitable software.

Data entry and statistical calculation with SPSS software:-

An Overview of SPSS

Mouse and keyboard processing, frequently – used dialog boxes

Editing output

Printing results

Creating and editing a data file

Managing Data:

Listing cases, replacing missing values, computing new variables,

recording variables, exploring data, selecting cases, sorting cases,

merging files

Graphs

Creating and editing graphs and charts

Frequencies:

Frequencies, bar charts, histograms, percentiles

Descriptive Statistics:

Measures of central tendency, variability,

Deviation from normality, size and stability.

Cross Tabulation and chi-square analyses

The means Procedure

Bivariate Correlation:

Bivariate Correlation, Partial

Correlations and the correlation matrix

The T-test procedure:

Independent – samples, paired samples, and one sample test

The one way ANOVA procedure:

One way analysis of variance

General Linear model:

Two-way analysis of variance

General Linear model:

Three-way analysis of variance and the influence of covariates

Simple Linear Regression

Multiple regression analysis

Multidimensional scaling

Factor analysis

Cluster analysis