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**MIT WORLD PEACE
UNIVERSITY** | PUNE

TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

PhD Entrance Test Syllabus for Faculty of Sustainability Studies

The PET (Ph.D. Entrance Test) for Faculty of Sustainability Studies consists of two parts:

- Part I : Research Methodology (50 marks) and
- Part II : Subject Specific (Related to the branch for 50 marks)

Total Marks for PhD Entrance Test: 100 Marks

The Syllabus for Research Methodology is common to Sustainability Studies and Public Health Specialization

Part I: Research Methodology (50 Marks)

- 1) **Introduction to Research and Research Problem:** Meaning of research, types of research, Objectives of research, Research and Scientific Method, Sources of research problem, Criteria / Characteristics of a good research problem, Errors in selecting a research problem, Scope and objectives of research problem, defining a research problem (Real life example or case study), formulation of research hypotheses, Qualities of a good Hypothesis.
- 2) **Research Design and Literature Review: Research Design-** Concept and Importance in Research, Features of a good research design, research designs – Experimental & Analytical research designs (informal and formal), Literature survey- Definition of literature and survey, need of literature survey, objectives of literature survey, sources of literature review. Critical literature review–Identifying gap areas from literature review and strategies of literature survey, Errors in research.

- 3) **Data collection, measuring, sampling and scaling:** Classification of data, benefits and drawbacks of data, evaluation of data, qualitative methods of data collection, types of data analysis, Sampling, sample size, sample design- concept of probability sampling and non-probability sampling, attitude measurement and scaling, types of measurements, criteria of good measurements, classification of scales.

- 4) **Data Analysis:** Testing of hypothesis and Goodness of Fit: Definition of null and alternative hypothesis, students 't' distribution, Chi-square distribution, F-test, analysis of variance techniques, introduction to non-parametric tests. Regression Analysis – Simple Linear Regression, Multiple linear Regression, Correlation and Regression Analysis. Introduction to factor analysis, discriminant analysis, cluster analysis, multidimensional scaling, Multidimensional measurement and factor analysis.

- 5) **Report, Research proposal and funding agency:** Need of effective documentation, types of reports and their format. Essentials of a research proposal. Different funding agencies for research. Research briefing, presentation styles, elements of effective presentation, writing of research paper, presenting and publishing paper, patent procedure, ethical issues.

Reference Books:

- a. Dr. C. R. Kothari, Research Methodology: Methods and Trends, New Age International Publishers, 3rd Edition, 2014.
- b. Ranjit Kumar, Research Methodology: A Step by Step Guide for Beginners , SAGE Publications Ltd., 2014.
- c. Wayne Goddard and Stuart Melvill, Research Methodology: An Introduction, Juta and Company Ltd. 2004.

Part II: Subject Specific Paper Sustainability Studies (50 Marks)

No.	Subject	Syllabus	Weightage out of 50 marks
1	Conservation Biology	Concept of Conservation Biology, IUCN Red list, case studies	5 marks (10%)
2	Ecology & Evolution	Animal and Plant Ecology, Ecological Theories	5 marks (10%)
		Evolution, Natural Selection, Biogeography	
3	Livelihoods & Climate Change	Natural Resource management, climate change, human-wildlife conflict	5 marks (10%)
4	Sustainable Development	<p>Definition of sustainability</p> <p>Theory of Limitation of Development</p> <p>Introduction to Sustainable Development Goals, Targets and Indicators</p>	10 marks (10%)
5	Peace and conflict studies	<p>Introduction of culture of Peace</p> <p>Global peace building mechanisms</p> <p>Diplomacy for peace</p>	5 marks (10%)
6	Disaster Management	<p>Global Standards of Disaster Management / disaster risk reduction and the international standards</p> <p>Case studies of Major disasters</p> <p>What are the natural disaster management and its types?</p> <p>Natural Disasters Geophysical (e.g. Earthquakes, Landslides, Tsunamis and Volcanic Activity) Hydrological (e.g. Avalanches and Floods) Climatological (e.g. Extreme Temperatures, Drought and Wildfires) Meteorological (e.g. Cyclones and Storms/Wave Surges)</p>	10 marks (10%)
7	Governance of Sustainability	How Sustainability governance helps any agency to implement sustainability strategy across the business, manage goal-setting and	5 marks (10%)

		reporting processes, strengthen relations with external stakeholders, and ensure overall accountability Considerations in building effective governance structures	
8	Natural Resource Management	Approaches towards sustainable utilization of major natural resources, such as land, water, air, minerals, forests, fisheries, and wild flora and fauna. How these resources provide the ecosystem services that provide better quality to human life.	5 marks (10%)

References

- 1) Towards a Theory of Sustainability and Urban Quality

J Rådberg - A New Method for Typological Urban ..., 1996 - iaps.architexturez.net

- 2) Sustainability indicators: measuring the immeasurable?

S Bell, S Morse - 2012 - books.google.com

- 3) A guide to community sustainability indicators

A Valentin, JH Spangenberg - Environmental impact assessment review, 2000 – Elsevier

- 4) Interdisciplinarity in sustainability studies: a review

JCK Lam, RM Walker, P Hills - Sustainable Development, 2014 - Wiley Online Library

Part II : Subject Specific Paper Public Health (50 Marks)

No.	Subject	Syllabus (Select 5)	Weightage out of 50 marks
1	Public Health	Introduction to public Health	5 marks (10%)
		Universal health coverage and universal access	5 marks (10%)
		What are the core functions of public health?	5 marks (10%)
		Sustainable Development Goals related to Health	5 marks (10%)
		Social Determinants of Health	5 marks (10%)
		Burden of Disease	5 marks (10%)
		Role of Gender, Equity and rights in Public Health	5 marks (10%)

References

1) Introduction to public health

MJ Schneider - 2016 - books.google.com

2) Intersectionality and Health: An Introduction.

L Mullings, AJ Schulz - 2006 - psycnet.apa.org

3) Structural determinants of Aboriginal peoples' health

C Reading, M Greenwood - Determinants of Indigenous Peoples' ..., 2015 - books.google.com

4) Social determinants of health

M Marmot, R Wilkinson - 2005 - books.google.com

5) An introduction to epidemiology

TC Timmreck - 2002 - books.google.com