DEPARTMENT OF FISHERY SCIENCES
VIDYASAGAR UNIVERSITY
P.O.: MIDNAPORE, DIST.: PASCHIM MEDINIPUR, WEST BENGAL, PIN- 721102

SyllabusforPh.D.CourseWork

SUBJECT: FISHERIESSCIENCE

CourseStructure:

Course	Subject	Full Marks	Marks Distribution	Credits
Paper - I	ResearchMethodologyandResearch Publication Ethics(RPE) and Computer Application	50	WrittenExam-50	4
Paper - II	Statistics	50	WrittenExam-50	4
Paper - III	*Subject Specific:* FisheriesScience	50	WrittenExam-50	4
Paper - IV	Emerging Issues in Core Areas of Research	50	Seminarpresentation -50	4

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PAPER- I

***CourseName*:**
ResearchMethodologyandResearch Publication Ethics(RPE) and Computer Application

(FullMarks-50Credit-4:WrittenExam-50 marks(2hrs.)

SECTION-A

BasicconceptsofResearchMethodology 20Marks

a) Definition of Research Methodology- Distinction between Method andMethodology-Differentkindsof Research

b) Finding Library Resources: Computer Literacy; Use of e-books; e-Journal &JSTOR

c) StyleofReferencing-sources,quotingsources,abbreviation

d) Bibliography:MLAandAPAFormats

e) Punctuation,ProofReadingandDia-criticalmarking

f) WritingaTermPaper

g) ReviewingArticlesandBooks

h) writingagoodResearchProposal

References

- RichardVeit,ChristopherGouldandJohnClifford– Writing,ReadingandResearch(2nd Ed.).
- NormanBlaikie–ApproachestoSocialEnquiry.
- C.R.Kothari&GauravGarg–ResearchMethodology– MethodsandTechniques(3rd Ed.)
- KateL.Turabian–AManualforWritersofResearchpapers,ThesesandDissertation.
- JonathanAnderson,BarryH.Durston,MillicentPoole–ThesesandAssignment

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SECTIONB

ResearchandPublicationEthics **20 Marks**

RPE 01:PHILOSOPHYANDETHICS(3 hrs.)

1. Introduction to philosophy: definition, natureandscope,concept,branches
2. Ethics:definition,moralphilosophy,natureofmoraljudgementsandreactions,different branchesofethics,researchethics.
3. Responsibilities of researchers to fellow researchers, respondents, thepublicandtheacademiccommunity.

RPE02:SCIENTIFIC CONDUCT(5hrs.)

1. Ethicswithrespecttoscienceandresearch.
2. Intellectualhonestyandresearchintegrity.
3. Scientificmisconducts:Falsification,Fabrication,andPlagiarism(FFP).
4. Redundantpublications:duplicateandoverlappingpublications,salamislicing.
5. Selectivereportingandmisrepresentationofdata.
6. Privacy,autonomy,confidentialityandanonymity.
7. Thefundingandsponsorshipofresearch.

RPE03:PUBLICATIONETHICS(7hrs.)

1. Publicationethics:definition,introductionandimportance.
2. Best practices/ standardssetting initiativesand guidelines: COPE(Committee of Publication Ethics),WAME (World Association ofMedicalEditors),etc.
3. Conflictsofinterest.
4. Publicationmisconduct:definition,concept,problemsthatleadtounethicalbehavioran dviceversa,types.

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5. Violationofpublicationethics,authorshipandcontributorship.
6. Identificationofpublicationmisconduct,complaintsandappeals.
7. Predatorypublishersandjournals.
8. Theroleoftheresearchers.

PRACTICE

RPE04:OPENACCESSPUBLISHING(4 hrs.)

1. Openaccesspublicationsandinitiatives.
2. SHERPA(Securinga HybridEnvironment forResearchPreservationandAccess)/RoMEO(RightsMEtadataforOpenArchiving) onlineresourcetocheckpublishercopyright&self-archivingpolicies.
3. SoftwaretooltoidentifypredatorypublicationsdevelopedbySPPU(SabitribaiPhulaPu neUniversity).
4. Journalfinder/journalsuggestiontoolsviz.JANE,ElsevierJournalFinder,SpringerJour nalSuggesteretc.

RPE05:PUBLICATIONMISCONDUCT(4hrs.)

A. GroupDiscussions(2hrs.)

1. Subjectspecificethicalissues,FFP,authorship.
2. Conflictsofinterest.
3. Complaintsand appeals: examplesand fraud fromIndia andabroad.

B. Software tools(2hrs.)

UseofplagiarismsoftwarelikeTurnitin,Urkundandotheropen-sourcesoftwaretools.

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RPE06:DATABASESANDRESEARCHMETRICS(7hrs.)

A. Databases(4hrs.)

1. Indexingdatabases.
2. Citationdatabases:WebofScience,Scopus,etc.

B. ResearchMetrics(3hrs.)

1. ImpactFactorofjournalasperJournalCitationReport,SNIP,SJR,IPP,CiteScore.
2. Metrics:h-index,gindex,ilOindex,altmetrics.

References

- Bird,A.(2006).*PhilosophyofScience.*Routledge.
- MacIntyre,Alasdair(1967)*AShortHistoryofEthics.*London.
- P. Chaddah,(2018) Ethicsin CompetitiveResearch:Do not get scooped;donotgetplagiarized,ISBN:978-9387480865
- NationalAcademyofSciences,NationalAcademyofEngineeringandInstituteofMedicine.(2009).*OnBeingaScientist:AGuidetoResponsibleConductinResearch:ThirdEdition.*NationalAcademiesPress.
- Resnik, D. B. (2011). What is ethics in research & why is it important.*NationalInstituteofEnvironmentalHealthSciences,*1-10.Retrievedfromhttps://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfrn
- Beall,J.(2012).Predatorypublishersarecorruptingopenaccess.Nature,489(7415),179-179.https://doi.org/10.1038/489 l79a
- Indian NationalScienceAcademy(INSA), Ethicsin ScienceEducation,ResearchandGovernance(2019),ISBN:978-81-939482-l-7.httj>://www.insaindia.res.in/pdf/EthicsBook.pdf
- Oliver Paul: *The Students Huide to Research Ethics*, Open University Press,McGrew Hill.
- H.MartynandAnneTrainanou:*EthicsinQualitativeResearch:Controversies and Contexts*, Sage,NewDelhi.

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SECTION-C

BasicknowledgeofComputerApplication **Marks 10**

1. MS Word
2. PowerPointPresentation
3. SpreadSheet/ExcelSheet

PAPER-II

Statistics

(FullMarks-50Credit-4:WrittenExam-50 marks(2hrs.)

Coursedetails:StatisticalMethods

1. Normalprobabilitydistribution.
2. Testforgoodnessforfitforaproposeddistribution.
3. Correlationofcoefficient:simplelinear,multiplelinear,andpartial
4. Regression;simple,multipleandstepwise.
5. Experimental design. Analysis of variance: its model, one or two way ANOVA. Multiple comparison tests.
6. SoftwarePackages for statistical analysis

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PAPER-III

Subject Specific: **FisheriesScience**

FullMarks-50Credit-4:WrittenExam-50 marks(2hrs.)

Course details:

1. AquaticEcologyandEnvironmentalManagement.
2. AquaticpollutionandEco-toxicology.
3. FishNutrition&Bioenergetics.
4. AquaticMicrobiology&PublicHealthFisheries.
5. FishPathology,Parasitology andDiseasemanagement.
6. FishImmunology.
7. FishBiochemistryandEndocrinology.
8. FishPhysiologyandReproductivebiology.
9. FishGeneticsandBreeding.
10. BiotechnologyandGeneticEngineering.
11. FisheriesTechnology,Oceanography,RemotesensingandGIS.
12. AquacultureEngineeringandAquaculturetechnology,
13. FishProcessingTechnology&Qualityassurance.
14. FisheriesExtension,Economics,Marketing.

PAPER-IV

Emerging Issues in Core Areas of Research

(Full Marks- 50 Credit-4)

Areviewworkto besubmittedandabriefpresentation to be delivered by the concern research student.

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