



**ODISHA PUBLIC SERVICE COMMISSION
ADVERTISEMENT NO. 07 OF 2022-23**

**Recruitment to the posts of Assistant Director in Group-B Service of
Odisha Planning Service Cadre under Planning and Convergence Department.**

WEBSITE: www.opsc.gov.in

Online applications are invited from the prospective candidates through the Proforma application to be made available on the website (<https://www.opsc.gov.in>). **The link for registration/ re-registration shall be available from 13.09.2022 to 12.10.2022 Note: 12.10.2022 is the last date for submission of Registered Online Application** for recruitment to **09 (Nine)** posts of Assistant Director in Group-B service of O.P.S. cadre under Planning & Convergence Department in the scale of pay of Rs. 44,900/- in Level 10, Cell -1 of Pay Matrix under ORSP Rules, 2017 with usual Dearness and other Allowances as may be sanctioned by the Government of Odisha from time to time.

2. VACANCY POSITION:

As per requisition filed by the Planning & Convergence Department, Government of Odisha, the vacancy position along with reservation thereof is given below:-

Sl. No.	Category	No. of Posts
1	2	3
1	UR	05 (01-w)
2	SEBC	01 (w)
3	SC	01
4	ST	02 (01-w)
Total		09(03-W)

- NOTE:** (a) In case of non-availability or availability of insufficient number of eligible women candidate(s) in any particular category, the unfilled vacancies of that category shall be filled up by eligible and suitable male candidate(s) of the same category.
- (b) The exchange of reservation between SC & ST categories will not be considered.
- (c) The number of vacancies to be filled up on the basis of this recruitment is subject to change by the Government without notice, depending upon administrative exigencies of public service at the discretion of the State Government.

3. AGE:

A candidate must have attained the age of **21(twenty-one)** years and must not be above the age of **38 (Thirty-Eight)** years as on the **1st day of January, 2022** i.e., he/she must have been born **not earlier than 2nd January 1984 and not later than 1st January 2001.**

Provided that the upper age-limit prescribed above shall be relaxed by **05 (five) years** for candidates belonging to the categories of **Socially & Educationally Backward Classes (S.E.B.C.), Scheduled Castes (S.C.), Scheduled Tribes (S.T.), Women & Ex-Serviceman.**

P.T.O.

Provided further that, the **maximum age limit of departmental candidates shall be relaxed upto 45 years.**

A **Government servant**, whether **temporary or permanent** or **working on probation** shall be eligible to appear at the competitive examination for recruitment to the service, if he or she is within the prescribed **age limit of 45 years** and is otherwise eligible to compete.

The **Departmental candidates** shall be **allowed three (03) chances** in the direct recruitment examination conducted by Odisha Public Service Commission **within the maximum age limit of 45 years.**

SAVE AS PROVIDED ABOVE, THE AGE LIMIT PRESCRIBED CAN IN NO CASE BE RELAXED.

The date of birth entered in the High School Certificate or equivalent certificate issued by the concerned Board/Council will only be accepted by the Commission.

4. EDUCATIONAL QUALIFICATION:

A candidate must have possessed any one of the following qualifications from a recognized University or from any Institution in India or abroad or any equivalent qualification namely: -

Bachelor's Degree with honours and Post-Graduate degree in Economics/ Applied Economics/ Agricultural Economics/ Commerce/ Mathematics/ Sociology with Statistics as one of the papers/ Anthropology/ Demography/ Geography with Cartography or Regional Planning as one of the papers/ Statistics/ Econometrics/ Regional Planning.

5. EXAMINATION FEES

The examination fee for all categories of candidates has been exempted as per **GA&PG Department Notification No. 9897/Gen, dt. 11.04.2022.**

6. METHOD OF SELECTION:

- (a) The Competitive Examination for recruitment to the posts of Assistant Director shall comprise as follows, namely: -
- i. **Written Test (Multiple Choice Questions) – 500 Marks**
 - ii. **Personality Test or Interview – 50 Marks**
- (b) The written test shall consist of **three (03) compulsory papers** and **one (01) optional paper.**
- (c) **Paper-I (General English) and Paper-III (Economics)** shall be of **2 hours duration** having **100 questions** each carrying **one (01) mark.**
- (d) **Paper-II (General Knowledge and General Social Studies) and Paper-IV** shall be of **3 hours duration** having **150 questions** each carrying **one (01) mark.**
- (e) The **compulsory papers** shall be of **Degree standard** and the **optional subject papers** shall be of **Master's Degree level.**

- (f) The Plan of examination with details of subjects in which the candidates shall be tested in the examination along with the maximum marks for each paper is appended at **Annexure – A** and the detailed syllabus for each paper is at **Annexure - I to XII**.
- (g) The qualifying marks for the Written Examination shall be decided by the Commission.
- (h) There shall be negative marking for each wrong answer with a deduction of **25% (one-fourth) of marks** allotted to the particular question.
- (i) The candidates who secure such minimum qualifying marks in the written test, as may be fixed by the Commission shall be called to appear at the personality test.

Provided the number of such candidates to be **called for the personality test belonging to each category**, shall not be more than **twice the total number of vacancies** advertised.

- (j) Every candidate appearing at the examination, if he is otherwise eligible shall only be permitted **maximum four (04) attempts to appear at the examination**.

Provided that **this shall not apply in case of S.C. and S.T.** candidates; and candidates belonging to the **Socially and Educationally Backward Classes (S.E.B.C.)** who shall be **permitted seven** such attempts.

Notwithstanding the disqualification or cancellation of candidature the fact of appearance of the candidate at the examination shall count as an attempt.

- (k) Final ranking of the candidates shall be on the basis of marks obtained in the Written examination and interview.
- (l) In case of candidates securing **same marks in the aggregate** the **final ranking** shall be determined **on the basis of age**, i.e., those **elder in age shall be given preference over others**.
- (m) The Commission shall prepare a list of selected candidates arranged in order of merit equal to the number of advertised vacancies on the basis of the marks secured in the written examination and viva voce test.

7. **PLACE OF EXAMINATION:**

The Written Examination will be held at Cuttack/ Bhubaneswar depending on the number of candidates . Request for change of Examination Centre shall not be entertained.

8. **OTHER ELIGIBILITY CONDITIONS:**

- (i) The candidate must be a citizen of India;
- (ii) The candidate should be able to speak, read & write Odia and must have:-
- (a) passed at least an examination in Odia equivalent to the Middle English School Standard conducted by Board of Secondary Education; or
- (b) passed Matriculation or equivalent examination with Odia as medium of examination in non-language subject; or
- (c) passed Odia as language subject in the final examination of Class VII or above; or
- (d) passed at least a test in Odia equivalent to M.E. School Standard conducted by the Education Department.

- (iii) A candidate, who has more than one spouse living will not be eligible for appointment unless the State Government has exempted his/her case from operation of this limitation for any good and sufficient reasons;
- (iv) Government servants, whether temporary or permanent or working on probation must submit No Objection Certificate issued by the competent authority during document verification.
- (v) If a candidate has at any time, been debarred for a certain period/chance(s) by the Odisha Public Service Commission or other State Public Service Commission or U.P.S.C. from appearing at any examination/ Viva Voce test, he/she will not be eligible for such recruitment for that specified period/chance(s);
- (vi) **Only those candidates, who are within the prescribed age limit and fulfil the requisite qualification etc. by the closing date of submission of online application will be considered eligible;**
- (vii) A candidate who claims change in his/her name after having passed the High School Certificate Examination or equivalent Examination, is required to furnish copy of publication of the changed name in the local leading daily newspaper as well as copy of notification in the Gazette in support of his /her change of name.

9. IMPORTANT POINTS

- (i) **Online Applications submitted to the OPSC, if found to be incomplete in any respect are liable to rejection without entertaining any correspondence with the applications on that score;**
- (ii) **Admission to Examination /Viva Voce Test will be provisional. If on verification at any stage before or after the Viva-Voce Test, it is found that a candidate does not fulfil all the eligibility conditions, his/her candidature shall be liable to rejection. Decision of the Commission in regard to the eligibility or otherwise of a candidate shall be final;**
- (iii) This advertisement should not be construed as binding on the Government to make appointment;
- (iv) Concession meant for SEBCs, S.Cs. & S.Ts. by birth are admissible to the Socially & Educationally Backward Classes, Schedule Castes & Schedule Tribes of Odisha only.
- (v) **Community /Caste status once mentioned by the candidates under the appropriate box of the online application form will be treated as final and the same shall not be changed subsequently under any circumstances.**
- (vi) **Any misrepresentation or suppression of information by the candidate in the Online Application, will result in cancellation of his/her candidature or penalty, as decided by the Commission be imposed on the candidate.**

10. CERTIFICATES AND DOCUMENTS TO BE ATTACHED:

The candidates who shall qualify in the written examination are required to download the hard copy of online application and submit the same during document verification. They are required to submit the true copies of the documents along including originals as mentioned below along with their application form. **The candidates are required to mention on the copy of each document "submitted by me" and put their signature & date on the same.**

P.T.O.

- (i) H.S.C. or equivalent certificate in support of declaration of age issued by the concerned Board/Council;
- (ii) **Bachelor's Degree Certificate/ Master's Degree certificate** in Economics/Applied Economics/ Agricultural Economics/Commerce/Mathematics/ Sociology with Statistics as one of the Papers/Anthropology/ Demography/ Geography with Cartography and Regional Planning as one of the papers/ Statistics/ Regional Planning/ Econometrics in respect of educational qualification prescribed for the recruitment **along with all the marksheets.**

NOTE 1:

The candidates are required to upload their H.S.C. Certificate, Bachelor's Degree Certificate/ Master's Degree Certificate, Odia Pass Certificate, Caste Certificate, Discharge Certificate in case of Ex-Servicemen etc. (wherever applicable) while filling up online application form, failing which their candidature shall be rejected.

- (iii) **Five (05) recent passport size photographs** (unsigned & unattested) which has been uploaded with online application.
- (iv) **Caste Certificate by birth** in support of claim as S.E.B.C/ S.C / S.T.
- (v) Required **Odia Test pass certificate** from the competent authority.
- (vi) **Discharge Certificates** issued by the Commanding Officer of the Unit last served. Ex-Servicemen must submit an affidavit undertaking that he has not been appointed against any civil post after retirement from military service, wherever applicable.
- (vii) **No objection Certificate** issued by the competent authority.
- (viii) Any proof of Identity.

NOTE-2:

- i. **Candidates claiming to be belonging to S.E.B.C./ S.C. /S.T. category of Odisha, by birth are required to submit copy of the relevant Caste Certificate issued by the competent authority in the prescribed form.**
- ii. **Candidates of SEBC category (other than Creamy Layer) must submit copy of Caste Certificate issued by the Competent Authority within the last three years by the closing date for submission of online application form in the prescribed format. The SEBC Certificate which is more than three years old by the closing date of submission of online application form is liable for rejection.**
- iii. **O.B.C. CERTIFICATES WILL NOT BE ACCEPTED IN LIEU OF S.E.B.C. CERTIFICATES AND CANDIDATES SUBMITTING OBC CERTIFICATES ARE LIABLE FOR REJECTION.**
- iv. **Women candidates belonging to S.E.B.C./ S.C./S.T. are required to submit Caste Certificates by birth showing "daughter of". Caste Certificates by virtue of marriage (i.e., showing "wife of") are not acceptable and liable to rejection.**

The competent authorities are: District Magistrate/Collector or Additional District Magistrate or Sub-divisional Magistrate/ Sub-Collectors or Executive Magistrates or Revenue Officers, not below the rank of Tahasildar/ Additional Tahasildar of Government of Odisha;

NOTE-3: Bachelor's Degree Certificate, Master's Degree Certificate, Caste Certificate, Odia Test Pass Certificate, Discharge certificate of Ex-servicemen must have been issued by the competent authority within the last date fixed for submission of online application form.

11. GROUND OF REJECTION OF APPLICATION:

Applications of candidates will be rejected by the Commission on any of the following grounds:-

- (a) In-complete online application form.
- (b) Non-submission of hard copy of online application form at the time of verification of original documents.
- (c) Not signing Declaration (full signature) in the hard copy of online application form.
- (d) Not coming within the age limit as mentioned in Para - 3 of Advertisement.
- (e) Not having requisite qualification as provided under Para - 4 of Advertisement.
- (f) Not furnishing copies of certificates/documents as provided under Para - 10 of Advertisement.
- (g) Not passing Odia test (M.E. standard) /not furnishing Odia test pass evidence as prescribed under Para-8 (ii) of the advertisement.
- (h) Submission of wrong information/ false information about qualification/ Age/ O.T. Pass evidence/ Category status (SEBC/ SC/ ST/ Women/ Ex-Servicemen etc).
- (i) Suppression of facts / information about eligibility, if any.
- (j) Any other ground as per the decision of the Commission.

NB: Application /candidature of a candidate shall be rejected at any stage of recruitment process when discrepancy is noticed/ detected.

12. HOW TO APPLY:

- (a) Candidates must go through the details of this Advertisement available in the Website of OPSC before filling up online application form.
- (b) Candidates must apply online through the concerned Website of the OPSC <http://opsc.gov.in>. Applications received through **any other mode** would not be accepted and summarily rejected.
- (c) **Before filling up the online application form, the candidates must go through detailed instructions available at OPSC portal.**

- (d) The online application form is automated and system driven and will guide the candidate seamlessly in filling the application. The requisite options shall be enabled and information shall be asked as per data furnished by the candidate. Before filling up the information, ensure that accurate information is fed, for edit option is limited & on confirmation there is no scope for further edit even if wrongful entry has been made while filling up application.
- (e) Candidates are requested to upload the scanned image of latest passport size photograph along with scanned image of his/her full signature and scanned image of Left-hand Thumb Impression (LTI) in the online application form. Uploaded photograph, Specimen (full) signature and LTI must be clearly identifiable / visible, otherwise the application of the candidate is liable to be rejected by the Commission and no representation from the candidate will be entertained.
- (f) Candidates should keep at least two copies of latest passport size photograph which is uploaded to the online application form for future use.
- (g) On successful submission of the online Registration, a unique "Permanent Public Service Account Number (PPSAN)" will be assigned to the applicant. Candidates are required to take a printout of the finally submitted online Registration/Re-registration and finally submitted Online Application forms and put his/ her signature under the declaration for submission to OPSC along with copies of requisite certificate & documents as and when asked.
- (h) The candidates are advised to submit the Online Application Form well in advance without waiting for the closing date to avoid last hour rush.**
- (i) Certificate of Admission to the written examination to the eligible candidates will be uploaded in the Website of the OPSC prior to the date of written examination which will be published in the Website of the Commission and Newspapers.
- (j) The candidates are required to download their Admission Certificate from the Website of the Commission and produce the same at the Examination centre for admission to the written examination. No separate correspondence will be made on this score.
- (k) "Intimation letters" to candidates for document verification & interview and "Attestation form" & "Bio-data form" shall be uploaded in the website of OPSC prior to the date of Document Verification/ Interview.
- (l) Any complaint on the conduct of examination must be sent to the Grievance Wing of the Commission by e-Mail (opsc@nic.in) within 03 (Three) days of completion of the examination.

13. FACILITATION COUNTER:

To resolve any Technical problem faced in filling up of online Registration/Re-registration and Application forms, candidate may contact OPSC Technical Support over Telephone No. 0671-2304707 between 10.30 A.M. to 1.30 P.M. & 2.00 P.M. to 5.00 P.M. on any Odisha Government working days.

In case of any guidance/information on this advertisement & recruitment, candidates may go through the **FAQ** available in the website of the Commission or contact the O.P.S.C. Facilitation Counter over TelephoneNo.0671-2304141/2305611 & Extn.-205 on any working day between 10.30 A.M. to 1.30 P.M. & 2.00 P.M. to 5.00 P.M.

The candidates are required to visit the website of the Commission at <https://opsc.gov.in> for detailed information about important notices, rejection of applications, the date & time of Written Examination/Document Verification/ Interview and also keep track of publication of various notices to the effect in the leading local daily newspapers for information.

CLOSING DATES

(A) ONLINE REGISTRATION/RE-REGISTRATION AND SUBMISSION OF ONLINE REGISTERED APPLICATIONS CAN BE DONE IN THE WEBSITE FROM 13.09.2022 TO TILL 12.10.2022 (11:59 P.M).

NB: - THE ONLINE APPLICATIONS, IF FOUND DEFECTIVE IN ANY RESPECT IS LIABLE TO BE SUMMARILY REJECTED.

**CUTTACK
DATE -03.09.2022**


**SECRETARY
ODISHA PUBLIC SERVICE COMMISSION
CUTTACK**

SCHEME OF EXAMINATION, SUBJECTS AND SYLLABI

1. The competitive examination shall comprise as follows, namely: —

- (i) Written Test (Multiple choice questions) 500 marks
- (ii) Personality test or Interview 50 marks

2. Subjects and Syllabi for the competitive Examination—

The written test shall consist of 3 (three) compulsory papers and 1(one) optional paper. The subjects in which the candidates shall be tested in the examination and the maximum marks for each paper is given below: —

WRITTEN TEST			
PAPER	Subject	Duration	Maximum Marks
(1)	(2)	(3)	(4)
A	Compulsory Papers :		
PAPER-I	General English	2 hours	100
PAPER-II	(a) General Knowledge (Aptitude Test/ Reasoning/ Mathematics) (b) General Social Studies (Basic Concept/ Knowledge on Development Economics, Geography, Sociology, Anthropology, Regional Planning and Demography)	3 hours	150
PAPER-III	Economics	2 hours	100
B	Optional Papers :		
	Candidates shall be required to choose one subject. There shall be one paper in each subject		
PAPER-IV	Economics/ Applied Economics/ Agricultural Economics/ Commerce/ Mathematics/ Sociology/ Anthropology/ Demography/ Geography/ Statistics/ Regional Planning/ Econometrics	3 hours	150

3. The **Compulsory** papers shall be of Degree Standard.

4. The scope of the Syllabi for optional subject papers for the examination shall be broadly the **Master's degree** level and the syllabi are detailed at Annexure-I to XII.

**SYLLABUS FOR ASSISTANT DIRECTOR IN (GROUP-B) OF
ODISHA PLANNING SERVICE CADRE**

1. Paper-I ... General English

The pattern of questions on General English will broadly include: usage & vocabulary and knowledge of Grammar.

2. Paper-II ... General Knowledge / General Studies

(a) This subject includes the following categories:

Aptitude Test, Quantitative Analysis, General Mental Ability, Basic numeracy (numbers and their relations, orders of magnitude), Data Interpretation (Charts, Graphs, Tables, Data Sufficiency, etc.), Decision making and problem solving.

- (b) (1) Current Events of national and international importance
(2) History of India and Indian National Movement
(3) Indian Polity and Governance—Constitution, Political System, Panchayati Raj, Public Policy, Rights Issues etc.
(4) General Science
(5) Knowledge on Development Economics
(6) Geography, use of maps for planning and monitoring
(7) Social Development
(8) General Anthropology
(9) Regional Planning & Demography
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3. Paper-III ... Economics (Compulsory)

Unit-1: Nature and scope of economics, Utility analysis: ordinal and cardinal utilities, Law of demand and Elasticity of demand: meaning and measurement, Consumer equilibrium under indifference curve analysis.

The production function: Laws of returns and returns to scale, Cost and Revenue: Average and marginal cost curves, Nature of short run and long run cost curves.

Unit-2: Market Equilibrium: Perfect competition, Monopoly and Monopolistic Competition.

Marginal Productivity Theories of Distribution, Wage determination, wage differential and collective bargaining, Rent: scarcity rent, differential rent and quasi-rent, Keynesian theory of interest, Innovation, risk and uncertainty theories of profit.

Unit-3: National Income Accounting, Concepts of GNP, GDP, NDP and National Income and measurements, Other Indicators of Development: PQLI and HDI. Concept of Keynesian Multiplier, Balanced budget multiplier, Autonomous and Induced Investment and determination of Income.

Unit-4: Commercial banking: Functions and objectives: Credit creation and Investment policy commercial banks.

Central banking: Objectives and Functions, Role of Monetary policy, Credit control measures with special reference to Reserve Bank of India.

Unit-5: Role of fiscal policy, Sources of Public Revenue: Incidence and burden of Tax, Characteristics of a good tax system, Trends of tax revenue of the Central and the State Governments in India, Growth of Public expenditure in India, Public debt in India, Types of Budget, Components of budget and their implications.

COMMERCE

- 1. Preparation of Financial Statement:** Final Accounts, Funds Flow Statement and Cash Flow Statement.
 - 2. Accounting issues:** Relating to Amalgamation, Absorption and Reconstruction of Companies both external and internal.
 - 3. Analysis of Financial Statements:** Horizontal, Vertical, Ratio Analysis, Common Size Statements, Comparative Statements, Trend Analysis.
 - 4. Decision making with Cost Accounting:** Cost concept, Marginal Costing, Breakeven Analysis, Budgetary Control.
 - 5. Planning:** Nature, Significance, Developing Planning Premises, Planning Exercise, SWOT Analysis
 - 6. Organizational Design:** Organizational Structure, Centralisation *Vs.* Decentralization of Authority, Informal Organization, Organizational Effectiveness.
 - 7. Business Statistics:** Data Collection Methods, Sampling Methods, Hypothesis Testing Procedure, Large Sample Test, 't' Test
 - 8. Financial Management:** Financial Goals, Conflict of Interest between the Stakeholders, Functions of Financial Manager, Changing Financial Environment, Computation of Cost of Equity and Cost of Debt Analysis of Operating Leverage and Financial Leverage, Capital Structure Decision and Share Holders Value Maximization, Capital Investment Decisions with time value of money.
 - 9. Security Analysis:** Characteristics of Security Investment, Primary and Secondary Market, Methods of Selling Securities in Primary Market and Secondary Market. Economic Analysis, Industry Analysis and Company Analysis.
 - 10. Marketing Practices and Marketing Strategy:** Planning and Marketing Segmentation, Marketing Research, Marketing Information System, Marketing Strategies, Rural and Agricultural Marketing, Cyber Marketing, Cooperative Marketing, Green Marketing.
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Origin and Growth of Sociology:

Emergence of Sociology as a science contributions and seminal ideas of the founding fathers: Auguste Comte, Karl Marx, Emile Durkheim, Max Weber.

Basic Elements of Social Life:

Norms and Values, Folkways and Mores Culture and Cultural Dynamics, Ethnocentrism and Cultural Relativism, Cultural Determinism, Cultural Traits, Diffusion, and Acculturation. Kinship, Marriage, and Family: Rules of Descent, Lineage and Clan.

Rules of Mate Selection, Forms of Marriage: Polyandry and Polygyny, Sororate and Levirate Forms of Family, Functions of Family, Recent Changes in the Institutions of Marriage and Family Groups: Primary and Secondary, Community: Rural and Urban, Gemeinschaft and Gesellschaft Order and Change, Socialization and Social Control, Conformity and Deviance.

Social Stratification: Theories of Social Stratification, Closed and Open Systems of Stratification Collective Behaviour: Crowd Behaviour and Social Movements.

Religion, Polity, and Economy :

Religious beliefs and rituals, the Sacred and the Profane Fetishism, Animism and Totemism Magic, Religion and Science; Social Functions of Religion.

Power and Authority, Bureaucracy, Elitism and Democracy—Pareto, Mosca, Michels, Karl Mannheim.

The Power Structure—C. Wright Mills, Robert Lynd, Robert Dahl

Social Relations of Economic Life, Primitive, Peasant, and Modern Economic Systems, Reciprocity, Distribution, and exchange: Contributions of Bronislaw Malinowski, Marcel Mauss, Theodore Shanin, Karl Polanyi.

Economic Behaviour, Rational Action and Capitalism

Contributions of Marx, Weber, and Talcott Parsons to the study of Economy and Society

Indian Social Structure and Change

Indian Society, Unity and Diversity

The Caste System: Features and Recent Changes, Caste and Politics Great Tradition and Little Tradition.

Social Change in India: Sanskritisation, Westernisation, Secularisation, Modernisation, Globalisation and its Impact.

Status of Women

The Constitutional Provisions and the Affirmative State Actions to develop the SCs, STs, OBCs and Women Ethnicity and Cultural Identity, Civil Society and Citizenship.

Social Disorganization and Problems:

Theories of Social Disorganization, Anomie and Alienation Family Disorganization, Divorce, Domestic Violence

Drug Addiction, Alcoholism

Poverty and Corruption with special reference to India Development and Displacement

Religious Fundamentalism and Communal Violence with special reference to India.

Research Methods for Social Planning :

Nature of Social Phenomena, Positivist and Constructivist Approaches

Typology of Research—Basic Research, Applied Research, Policy Research, Action Research, Evaluation Research.

Problem of Objectivity in Social Research

Information needs for planning, Sources and Types of Data, Methods of Data Collection - Quantitative, Qualitative, and Participative methods.

Ethical Issues in Social Research

Sociology of Development and Planning :

Concepts and Approaches to Development, Growth-Oriented and Equity-Oriented Development Planning, Principles of Gandhian Planning.

Multidimensionality of Development—Physical, Social, Cultural, Economic, Political, and Ecological dimensions.

Key Actors in Development—The State, the Market, and the Civil Society Organisations
History of Five-Year Plans, Decentralized Planning and Local Development—concept, Importance and Approaches Conventional, technical top-down planning Vs. Participatory bottom-up planning Institutional Framework for integrated Development Planning, Role of PRIs, NGOs and Community Institutions Convergence of Resources and Services, Methodology for Micro Planning.

Rural Development Planning:

Objectives, Perspectives, and Approaches, Service Delivery Vs. Empowerment oriented approaches, basic Issues of Poverty and Sustainable Livelihoods, Natural Resources Management, Entrepreneurship development, Participation, Grass roots Democracy and Governance, Community Ownership and management, Public-Private Partnership for Assets-Based Community Development, Role of Social Capital, Community-Based organizations, Self-Help Groups, Cooperatives, and their Federations, their roles, coordination and linkages, Success stories and Best Practices, Major anti-poverty programmes of the Government.

MATHEMATICS

1. **Real Analysis:** Sequences and series of functions, uniform convergence, power series, Fourier series, Functions of several variables, maxima, minima, multiple integrals, line, surface and volume integrals, Green's theorem, Gauss and Stoke's theorem. Metric spaces, completeness, Weierstrass approximation theorem, compactness, Lebesgue measure, measurable functions, Lebesgue integrals, Fatou's lemma, Dominated convergence theorem.
2. **Complex Analysis:** Analytic functions, Conformal mappings, Bilinear transformations, Complex integration, Cauchy's integral formula, Cauchy's theorem, Liouville's theorem, Maximum modulus principle, Taylor and Laurent series, Residue theorem and its application for evaluating real integrals.
3. **Linear Algebra:** Finite dimensional Vector spaces, Linear transformations and their matrix representations, Rank, System of linear equations, Eigen values and eigen vectors, minimal polynomial, Caley Hamilton theorem, Diagonalization, Hermitian, Skew-Hermitian matrices, Finite dimensional inner product spaces, Self-adjoint and Normal operators, Quadratic forms, Reduction of quadratic forms.
4. **Algebra:** Groups, Normal subgroups and homomorphism theorems, Automorphisms, Symmetric groups, Alternating groups, Rings, Maximal Ideals, Prime Ideals, Integral domains, Euclidean domains, Principal Ideal domains, Unique Factorization domains, Fields, SyLOW's theorems and their applications.
5. **Functional Analysis:** Banach spaces, Hahn-Banach theorem, Open mapping & Closed graph theorems, Principle of Uniform Boundedness, Boundedness & continuity of Linear transformations, Dual spaces, Embedding in the second dual, Hilbert spaces, orthonormal sets, Bessel's inequality, Parseval's identity, Riesz Representation theorem, Self-adjoint, Unitary & Normal linear operators on Hilbertspaces.
6. **Ordinary Differential Equations:** First order ordinary differential equations, Existence and uniqueness theorems, Linear ordinary differential equations of higher order with constant coefficients, Linear second order ordinary differential equations with variable coefficients, Methods of Laplace transforms for solving ordinary differential equations, Series solutions, Legendre and Bessel functions and their orthogonality, Sturm Liouville system, Green's functions.

7. **Partial Differential Equations:** Linear and quasilinear first order partial differential equations (PDE), method of characteristics, Second order linear equations in two variables & their classification, Solutions of Laplace, Wave, Heat equations in two variables, Fourier series and transform methods of solutions of the above equations and their applications to physical problems.
 8. **Numerical Analysis:** Numerical solution of algebraic & transcendental equations, bisection, secant method, Newton-Raphson method, Fixed point iteration, Interpolation: Lagrange, Newton, Hermite interpolations, Numerical differentiation and integration, Trapezoidal & Simpson rules, Quadrature rules, Numerical solution of system of linear equations, direct and iterative methods, Numerical solutions of ordinary differential equations, initial value problems, Taylor series methods, Runge-Kutta methods.
 9. **Mathematical Programming:** Linear programming problem & its formulation, Graphical method, Basic feasible solution, Simplex method, Big-M method & Two-phase methods, Infeasible & unbounded LPP, Dual problem & Duality theorems, Dual Simplex method, sensitivity analysis & Parametric linear programming, Kuhn-Tucker conditions of optimality, Quadratic programming, Duality in quadratic programming, self-duality, integer programming, transportation & assignment problems.
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ANTHROPOLOGY

- Unit-I:** Meaning and Scope of Anthropology; Major areas of Anthropology, their scope and relevance: Social and cultural anthropology; Biological anthropology; Archaeological anthropology; Linguistic anthropology, Medical anthropology, Ecological anthropology, Palaeoanthropology, Forensic anthropology, Visual anthropology, Cognitive anthropology, Political anthropology, Population anthropology, Economic anthropology,
- Applied and action anthropology, Urban anthropology, Molecular anthropology. Relationship of anthropology with other branches of social and biological sciences; Natural Science ideas in anthropology, Humanistic Tradition in anthropology, Anthropology and History.
- Unit-II:** Organic Evolution: Lamarckism, Darwinism, Synthetic theory, Out of Africa vrs Multi-regional theory of human origins, Paleontological evidences of Human evolution: Australopithecine, Homo-erectus, Homo-neanderthalensis, Homo-sapiens, Interdependence between biological and cultural evolution, Erect posture and bi-pedalism, Concept of Race, Race and Racism, Criteria for Racial Classifications; Distribution and Characteristics of Major races of the world: Caucasoid; Negroid; Mongoloid; Racial classification of Indian Population (Risley's, Guha's, Sarkar's); Role of heredity and environment in race formation.
- Unit-III:** Geological Time Scale: An outline of the Pleistocene epoch; Glacial and Interglacial periods of Europe and India, meaning and scope of prehistoric anthropology, Relative and absolute dating, Prehistoric Technologies and Tool types of Early man: Manufacturing techniques of major Palaeolithic, Mesolithic and Neolithic tool types, Evolution of Indian culture and civilisation: Palaeolithic, Mesolithic, Neolithic, Protohistoric cultures, Ethno- archaeology in India.
- Unit-IV:** Culture and society, culture and personality, patterns of culture, features of culture, culture trait and culture complex, Culture Change: Innovation, Invention, Diffusion, Acculturation, Assimilation, Attenuation, Integration Social Institutions: marriage: types, functions and regulation; family: types. Impact of urbanisation and industrialisation on family, universality of family; Kinship: principles of descent, kinship terminology, usages, Alliance Theory;

Clan and Lineage: Types and functions; Economic organisation: Primitive and peasant economy; Reciprocity and Redistribution; Usufruct Rights; Barter; Subsistence Economy; Market Economy; Political organisation: Concept Band; Stateless Society; Segmentary Society; Primitive Government: Forms and Functions; Social Control: Forms and Agencies; Religion, Magic and Science, Theories of primitive region.

Unit-V: Human Genetics: Scope and Developments; Mendel's Law of Inheritance and its application to Man; Hardy-Weinberg Law and its application in human population, Patterns of inheritance of Autosomal (dominant, recessive and co-dominant) and sex-linked traits, Methods of studying human heredity: Twin method, Pedigree method and Sib-pair method; linkage and crossing over; Polygenic Inheritance in Man, Chromosomal abnormality in Man, Blood Groups; HLA; Structure and function of DNA, RNA, Recombinant DNA technology; Genetic variation and genetic disorders in human population; Application areas of biological anthropology and human genetics for the service of mankind. Human Growth and development: Stages and factors, Ageing and senescence.

Unit-VI: Research methods in anthropology: Inductive and deductive methods, field work tradition in anthropology, Comparative methods in anthropology, Scientific methods in anthropology; Synchronic and Diachronic Approaches in anthropology; Emic and Etic Approaches; Types of Research design, Techniques of data collection: Observation, interview, questionnaire, case study, schedule, Analysis, interpretation of data, Types of Sampling. Socio-gram, projective technique, Monitoring and Evaluation; PRA and RRA Techniques.

Unit-VII: Salient features of Indian society and culture, Unity and diversity, Approaches to the study of Indian society and culture, Village studies in India, Jajamani system, Caste system in India, Dominant caste, Little Tradition and Great tradition; Universalization and Parochialization; Urban Communities: Structure and Types; Cultural Role and Functions of Cities: Folk-Urban and Tribe-Caste Contrast and Continuum, Social and Cultural Change in Modern India Sanskritization, Westernization, Urbanization and Industrialization, Modernization, Peasantization, Retribalization; Social, Cultural and Psychological Barriers and Stimulants to Change.

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Unit-VIII: Weaker Sections in India-Scheduled Tribes, Scheduled Castes, De-notified Tribes, Nomadic and Semi-Nomadic Tribes and Castes. Their population, Distribution and Classification; Religious Minorities; Problem of Minorities, Tribes and Other Backward Castes (SEBCs); Constitutional Provisions and Safeguard Measures for SCs and STs; Unresolved issues and Problems of Development of STs (Forests, Shifting Cultivation, Land Alienation, Housing, Health and Sanitation/Nutrition, Indebtedness, Bonded Labour and Child Labour, Education and Gender Issues; Problems of Displacement due to Development Schemes, Tribal Rehabilitation), Development Strategies; Policies, Plans and Programmes for Tribal Development, Role of Anthropology in tribal and rural development. Contribution of Anthropology to the understanding of regionalism, ethnic and political movement Development Planning in India, Poverty in India, Forest and Tribals, Forest Policy in India.

Unit-IX: Tribal Movements in India; Mandal Commission; Dhebar Commission, Bhuria Committee Report; Regionalism and Ethnicity; New Panchayat Raj System: PESA and Grama Sabha; Role of Voluntary Organisations in Development, Population Policy in India, Population problems in India; Problems of Food security in India, Problems of Health and Nutrition in Indian population, Problems of environment degradation and pollution in India, Environment and sustainable development. Empowerment of Women in India: Issues and challenges; Environment policy in India.

Unit-X: Theoretical Issues in Anthropology: Evolutionism, Diffusionism, Neo- evolutionism, Functionalism, Structure functionalism, Structuralism, Cultural materialism, Social Biology, Post- modernism, Cultural Ecology, Demographic theories: Biological and socio-cultural; Anthropology and the Concept of Race;

GEOGRAPHY**UNIT-I (Physical Geography):**

Seismic Study and Constitution of the Earth's Interior, Continental Drift Theory and Plate Tectonics, Concept of Geosynclines and Theories of mountain building and Isostasy. Forms of Valley Development: Contribution of W.M. Davis, W. Penck & L.C. King, Quantitative analysis of Erosional Landforms: Laws of Drainage Morphometry, Insolation and Heat Budget, Monsoon and Jet Stream, Atmospheric Disturbances: Tropical and Temperate Cyclones, Surface Configuration of Ocean Floor, Currents of Atlantic, Pacific and Indian Oceans.

UNIT-II (Human and Economic Geography) :

Culture and Geography: Cultural realms of the World, Rural Settlement: Factors affecting settlement, Patterns of Rural settlement, Urban Settlement: Towns and Cities, The rank-size distribution of cities, The shape and structure of towns, Central Place Theories, The process of World Urbanization, Resource Utilization and Economic Development, Principles of Natural Resource Conservation. The Role of Transportation and Communication in Economic Development.

UNIT-III (Cartography and Statistics) :

Earth Map Relations: Spherical, Ellipsoidal and Geoidal Earth, Geographical Coordinates, Properties of Graticule, Basic Characteristics of Maps, Map Types, Map Forms, mapping Constraints, Cartographic data Analysis: Grouping Techniques and Mapping Methods, The Cartographic Communication Process, Cartographic Parameters, The Fundamental Properties of a Map projection, Measures of Dispersion and Variability, Correlation and Regression Analysis in Geography.

UNIT-IV (Environmental Geography) :

Cultural Changes and Sustainability (Agricultural Revolution, Industrial Revolution and Information/ Globalization Revolution), Poverty and Environment: Their Status, Trends and Environmental Consequences of Poverty, The Concept of Disaster and Disaster Management, The Concept of Disaster Management Cycle- Post Disaster Review Prevention, Mitigation, Preparedness, Disaster Impact, Response, Recovery, Development, **Environmental Impact Assessment:** Concept, Process and Evaluation Methods, Goals and Principles of EIA, Effects of EIA on Projects, Perennial Problems in EIA Implementation, **Social Impact Assessment:** Definition, The Steps and Guiding Principles, Methods for Preliminary and Main Phase in SIA, Problems Confronting SIA, Fundamentals Issues in SIA. Sustainable Development—Concept, Definition and Goal, Dimensions of Sustainable Development—Programme of Action for Sustainable Development in Agenda-21.

UNIT-V (Geographic Thought) :

● Geographical Concepts in Ancient Period-Contributions by Indians, Greeks, Romans and Chinese, Medieval Period: Arabian Geography, Renaissance in Geography, Modern Period in Geography: Contributions of Humboldt, Ritter and Ratzel, Dualism and Dichotomy in Geography, Concept of Crude Determinism, Environmentalism, Neo- Determinism, Scientific Determinism, Stop and Go Determinism, Pragmatic Possibilism, The Quantitative and Theoretical Revolution in Geography, Paradigms—Testing of Hypothesis, Model Building, Diffusion of Innovation, Geography- A new Synthesis— Empirical Philosophy of Regional Geography, Scientific Explanations in Geography, Trends Towards a New Synthesis.

REGIONAL PLANNING

UNIT-I (Fundamental Concepts):

Concepts and Rationale of Planning, Concept of Region and Regional Planning, Planning, Planner and Plans. Planning Policy Making and Implementation. The History of Planning in the Third World, The Planning Agencies. The Professional Planner, The Planner in the Society.

UNIT-II (Some Theoretical Considerations) :

Economic Growth Theories: Rostow, Dualism and Theories of Modernization, dependency models, Regional Development Theories: Hirshman, Myrdal, and Perroux. Friedman, Spatial Structure of Regions: Central Place Theory (Christaller, Losch and Galpin), Growth Pole Theory.

UNIT-III (Planning Procedures and Techniques) :

Methods and techniques of Regionalization, Techniques in Preparation of Regional Plans, Choosing Planning Techniques in the Developing Countries, Appraisal Techniques, Implementation, Monitoring and Evaluation, Forecasting, modelling and plan design, The System of Rural Centres: Functions of Rural Centres and Procedures for Drawing Up a Hierarchical Rural Centre Plan.

UNIT-IV (The Operational and Spatial Level of Planning Activity) :

Operational Level: Project Planning, Sectoral Planning, Integrated Area Planning, Comprehensive National Planning. Spatial Level: The Concept Decentralization and decentralization, Decentralization in Planning, The Top-Down and Bottom Up approach, The choice of Spatial planning levels.

UNIT-V (Regional Planning in India) :

The efforts of Regional and Rural Development Planning in India, Spatial Structure Administrative Set-up for Regional and Rural Development Planning in India, Regional Imbalance and Regional Disparity in India, Multi-Level and Decentralized Planning in India, Development of Backward Areas, Planning for Tribal Development, Multipurpose River Basin Planning.

STATISTICS

1. Statistics and its importance in planning. Descriptive statistics: Measure of central tendency, dispersion, moments, skewness and kurtosis. Linear correlation and regression analysis with applications. Multiple correlation and regression analysis. Measures of association of attributes. Time series analysis.
 2. Definition and rules of probability, Marginal, conditional and joint probability, Bayes theorem and its applications, Random variables: Discrete and continuous. Mathematical (expectations. Moment generating functions, Convergence theorems, Law of large numbers, Central limit theorem. Probability distributions: Binomial, Poisson, Geometric, Normal Uniform, Exponential, Gamma, Beta distribution.
 3. Parametric and non-parametric inference: sampling from normal population parameter and estimator. Properties of a good estimator: unbiasedness, consistency, efficiency and sufficiency. Point estimation: Cramer-Rao inequality, MVU Estimator, maximum likelihood method of estimation and its properties, interval estimation, Test of hypotheses: Null and alternative hypothesis, type I and II errors, neyman-pearsop lemma, test of significance based on 'Z' , 'T' , 'F' and Chi-square. Non-parametric test: Sign test, signed rank test, median test, run test, mann-whitney U test.
 4. Sampling from finite populations: population, sample, sampling units/ sampling Vrs. Census sampling and non-sampling errors, probability and non-probability sampling, sampling designs: simple random sampling WOR and WR. Method of drawing simple random sample. Determination of sample size. Stratified sampling, systematic sampling. Cluster sampling, multi-stage sampling. Estimation of population mean / total and standard error of estimates. Use of auxiliary information in sample surveys – ratio, regression and product method of estimation. Comparison of efficiency, PPS method of estimation.
 5. Design and analysis of experiments, analysis of variance models – fixed and random. Analyse of one way and two way classified data, basic principles of designs, Experimental designs—CRD, RBD and Latin square designs and their analysis. Missing plot technique, factorial experiments: analysis with and without confounding.
 6. Optimization techniques: linear programming problems; Graphical and simplex method of solutions, duality, transportation and assignment problems multivariate analysis: bivariate normal distribution and Multivariate normal distribution and their properties, test of significance based on multivariate normal population, Discriminant analysis.
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AGRICULTURAL ECONOMICS

1. Micro-Economics :

Theory of Consumer Behaviour—utility approach, income effect, substitution effect, indifference curve approach. Consumer surplus, derivation of demand curve, elasticity of demand, production function, theory of costs, supply, producer's surplus. Market equilibrium, perfect competition, general equilibrium theory.

2. Macro-Economics and Policy :

Macro-Economics-Nature and Scope, Keynesian concepts, national income— concepts and measurement, classical theory of employment, concept of multiplier and accelerator, inflation monetary policy and fiscal policy.

3. Agricultural Production Economics :

Nature scope and significance of agricultural production economics assumption of production functions, estimation of commonly used production function, factor- product, factor-factor and product production relationship, cost function and cost curves, return to scale, factor share, elasticity of production.

4. Agricultural Finance :

Role and importance of agricultural finance, financial institutions and credit flow to priority sector. Agricultural lending – direct and indirect financing. The concept of 3Rs, 3Cs and 7Ps of credit, estimation of technical feasibility. Economic viability repaying capacity and risk bearing ability of the borrowers, balance sheet, cash flow statement and profit and loss, account, ration analysis, crop insurance programme.

5. Natural Resource and Environmental Economics:

Concept, classification and problems of Natural resource economics property rights, public goods, common property and open access resource management – collective action, sources and types of pollution, economics of pollution control, environmental regulation and sustainable development.

6. Agricultural Marketing and Price Analysis:

Characteristics of agricultural products and production problems in agricultural marketing, marketed and marketable surplus, marketing efficiency, market integration, cooperative marketing, supply chain, management agricultural price policy and economic development commodity future markets, contract framing, Role of Govt. promoting / commodity trading.

7. Commodity Features Trading :

Evolution of Commodity markets—spot, forward and future markets, risk in commodity trading, need for risk management measures, FDI in commodity markets, hedging and speculation, speculative mechanism in commodity futures. Dumping and anti-dumping, WTO.

8. Farm Management :

Economic principles applied to farm management—Law of diminishing marginal return, law of equi-marginal return, law of comparative advantage, opportunity cost principle. Farm planning and budgeting, partial budgeting, complete budgeting, enterprise budgeting and cash-flow budgeting, farm records, benefits of farm records, farm efficiency measures.

9. Project Management :

Project approach in financing agricultural, financial economic and environmental appraisal of investment projects, identification, preparation, appraisal, financing and implementation of projects. Project appraisal techniques, B-C ratio, NPV and IRR.

10. Agricultural Development and Policies :

Economic development and economic growth, indicators and measurement of economic development. Theories of economic growth, role of agriculture in economic / rural development, theories of agricultural development, population and food policy, poverty, inequality, models of agricultural development.

ECONOMICS

Measurement of National income, Difficulties in measurement, GDP gap, Poverty, inequality, Lorenz curve—Gini Co-efficient, Consumer Price Index.

Monopoly, dumping, sweezy model, Baumols' model, bilateral monopoly, pareto optimality criteria, theory of second best.

Theory of income and employment, classical and Keynesian, unemployment— causes and remedies, consumption function, savings function, investment function, MEC, AD/AS framework, theory of multiplier, accelerator principle.

Role and functions of money, spectrum of money, money multiplier, banking systems, functions of commercial banks, function of Central Bank, money market and capital market, IS LM framework.

Business cycle, inflations, causes and consequences, Phillips curve, fiscal policy and monetary policy, comparative advantage theory, balance of payments, foreign exchange determination, gains from trade.

APPLIED ECONOMICS

Production function: homogeneous and non-homogeneous, short run production function.

Cost function: long run and short run, producer's equilibrium, Cobb Douglas production function, CES function, returns to scale.

Dumping, cournot model, stackelberg model, Baumols model, limit pricing, game theory, prisoners dilemma, nash equilibrium, linear programming, simplex method.

Harrod-domar model, solow model, Robiosons model, Lucas model, Kalecki model, Multiplier and accelerator model of trade cycle.

Business cycle, Kaldor model, inflations, Phillips curve, balance of payments, foreign exchange determination, gains from trade.

Pareto optihiality criteria, Kaldor hicks compensation principle, theory of second best, arrows impossibility theorem, Richardian and Marxian theory of distribution.

DEMOGRAPHY

1. Sources of Demographic Data:

Census, registration of vital events, national sample survey and demographic surveys, socio-economic surveys, family and health surveys.

2. Methods of Demographic Analysis:

Rates, ratios, diagrams, percentages, projection, tabulation, cross tabulation, bivariate analysis and multivariate analysis.

3. Fertility:

Meaning and scope, measurements of fertility (Birth rate, general fertility rate, age specific fertility rate, total fertility rate, gross reproduction rate, net reproduction rate), factors affecting fertility, fertility trends of Odisha and India since 1951.

4. Mortality:

Meaning and scope, measurements of mortality (Death rate, age specific death rate, infant death rate, child death rate, maternal death rate), factors affecting mortality, mortality trends of Odisha and India since 1951.

5. Composition:

Population growth, density, age-sex composition (pyramid), sex ratio, child age (child population), reproductive age (reproductive population), working age (economic active population), aged population, dependency ratio.

6. Migration:

Meaning and scope, type of migration (internal and international), nature of migration (temporary, permanent), net migration, factors affecting migration, trends of migration (rural-urban, rural-rural, urban-urban, urban-rural).

7. Reproductive Health:

Meaning and scope, reproductive health situation in Odisha, reproductive morbidity (during pregnancy, child birth, neo-natal care), HIV and AIDS, causes and preventions of HIV, AIDS.

8. Human Development:

Meaning of human development, Human Development Index (HDI), Population Below Poverty Line (PBPL), Sustainable development, inter-relation between population growth and development (Education, Economy and Health).

9. Environment:

Meaning and scope, inter-relationship of population and environment. Types and causes of environmental pollution (Air, land, water, noise), deforestation and global warming, coping mechanism.

10. Theories and Policies:

Malthusian theory of growth, Malthusian theory of surplus, spencers bio-social theory, optimum theory of population. Theory of demographic transition, population plans and programmes in India. National population policy, millennium development goal.
