UNIVERSITY OF ALLAHABAD
- **Institute of Professional Studies**
- **Centre of Vocational Studies & Skill Development**

Brochure (Information and Guidelines)
Helpdesk Email : helpdesk.aupravesh2022@gmail.com
Helpdesk No.: +91-9453819479, 9453819486, 9453819385

Courses run by Institute of Professional Studies

Under-Graduate Courses	Post-Graduate Courses
(1) Bachelor of Computer Applications (BCA)	(1) Master of Computer Applications (MCA)
(2) B.Voc. Food Processing and Technology	(2) M.Sc. Food Technology
(3) B.A. in Media Studies	(3) M. Voc in Media Studies
(4) B. Voc in Media Production	(4) PG Diploma in Computer Applications (PGDCA)
(5) B.A. in Fashion Design and Technology	

5 Year integrated UG & PG Courses (Based on NEP-2020)

(1) Five Year Integrated UG and PG Food Technology Programme#
(2) Five Year Integrated BCA & MCA (Data Science)*

Course is based on "National Education Policy (NEP)-2020" with multiple Exits (please see details at page no.06, Table (a)).

*Course is based on "National Education Policy (NEP)-2020" with multiple entries and multiple exits (see details at page no.06, Table (b)).

Course run by Centre of Vocational Studies & Skill Development

B. Voc. Degree Programme in Software Development

Admission to B. Voc. Degree Programme in Software Development shall be done through a combined entrance test along with the BCA and Five year Integrated BCA and MCA (Data Science) course being run by Centre of Computer Education & Training, Institute of Professional Studies.

Admission Notification Session 2022-2023

Please visit http://www.aupravesh2022.in OR Admission-2022 link of www.allduniv.ac.in for ONLINE application and more details.

1. The applicant must take due care while filling up the form (online). The information provided by the applicant in his/her form shall not be changed or altered in any case and the University will not entertain such requests under any circumstance. The University shall not be liable for any mistake made by the applicant.

2. There is no provision of revaluation/scrutiny.

3. Only such RTI applications shall be entertained which are received within 60 days from the declaration of final result.

4. Each candidate will also have to mention his / her Sub-Category along with his / her overall category i.e. UR, EWS, SC, ST and OBC.

5. Every candidate will have to declare any disciplinary action/police action against him/her.

6. The Registration Fees for Unreserved, EWS and OBC Category is Rs. 1600/- and SC/ST/PH is Rs. 800/-.

7. Every candidate can view his/her Answer Sheet within one month of declaration of Results by paying a token amount Rs. 100/- at Pravesh Bhawan.

8. The entrance test will be conducted in various centres of Prayagraj, Gorakhpur, Kanpur, Varanasi, Lucknow, Bareilly, New Delhi, Bhopal, Kolkata, Patna and Thiruvanthapuram.

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IMPORTANT EVENTS	
IMPORTANT EVENT	**DATES / TIME**
Opening of Online Registration	**11th June 2022**
Closing of Online Registration and payment	**1st July 2022**
Opening of Downloading Admit Cards Online	**TO BE ANNOUNCED LATER**
Date of Entrance Test	**TO BE ANNOUNCED LATER**

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Duration, No. of Seats, Eligibility and Fee Structure of the UG, PG and PG Diploma courses (2022-23)

Sr. No.	Courses	Duration	No. of Seats	Eligibility	Admission Procedure	Fee Structure
1	B.A. in Media Studies	3 years (Six Semester)	58	10+2 (in any stream).	**COMMON ENTRANCE Test** Admission through counseling, based on merit and preference.	a. Semester I – Rs.31,000.00 (includes Rs.4,000.00 refundable caution money) b. Semester II – Rs.15,000.00 c. Semester III – Rs.27,000.00 d. Semester IV – Rs.15,000.00 e. Semester V – Rs.27,000.00 **f.** Semester VI – Rs.15,000.00
2	B.Voc in Media Production	3 years (Six Semester)	50			a. Semester I – Rs.27,000.00 (includes Rs.2,000.00 refundable caution money) b. Semester II to VI – Rs.25,000.00 per semester
3	Bachelor of Computer Applications(BCA)	3 years (Six Semester)	100	10+2 with Mathematics (science group) from any recognized Board or its equivalent		a. First Year – Rs.52,000.00 (includes Rs.4,000.00 refundable caution money) b. Second Year – Rs.48,000.00 c. Third Year – Rs.51,000.00
4	Five Year integrated BCA & MCA (Data Science)	5 years (10 Semester) with multiple entries and multiple exits	50	A 10+2 passed student From a recognised board in Science / Commerce Stream. In case the student has passed class XII from a recognised board other than the Science / Commerce, he/she must have studied Mathematics / Statistics / Information Technology / Computer Science / Information Science as one of the subject in class XII. He / She must have scored at least 55% marks in class XII	**COMMON ENTRANCE Test** Admission through counseling, based on merit and eligibility of the candidate in that course.	a. First Year – Rs.60,000.00 (includes Rs.5,000.00 refundable caution money) b. Second Year – Rs.60,000.00 c. Third Year – Rs.65,000.00 d. Fourth Year – Rs.70,000.00 e. Fifth Year – Rs. 75,000.00
5	**B. Voc. Degree Programme in Software Development ***	**3 years (6 Semesters)**	**40**	**10+2 with Science Stream**		a. Semester I – Rs.30,000.00 (includes Rs.5,000.00 refundable caution money) b. Semester II to VI – Rs.25,000.00 per semester

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Sr. No.	Courses	Duration	No. of Seats	Eligibility	Admission Procedure	Fee Structure
6	5 Year integrated UG & PG Food Technology Programme	5 years (10 Semester) with multilevel exits	50	A candidate must have passed 10+2 science examination with PCB/PCBM/PCM/10+2 Agriculture having not scored less than 50% marks (45% for SC&ST candidates) in aggregate.	**COMMON ENTRANCE Test** Admission through counseling, based on merit and preference	a. Semester I – Rs.35,000.00 (includes Rs.5,000.00 refundable caution money) b. Semester II to VI – Rs.30,000.00 per semester c. Semester VII to X – Rs.35,000.00 per semester
7	B. Voc Food Processing & Technology	3 years (Six Semester)	62	10+2 with science stream (PCB/PCBM/ PCM)/10+2 Agriculture having scored not less than 50% marks (45% for SC & ST candidates) in aggregate with condition that candidates coming from different streams must take remedial courses as prescribed.		c. Semester I – Rs.35,000.00 (includes Rs.5,000.00 refundable caution money) d. Semester II to VI – Rs.30,000.00 per semester
8	B.A in Fashion Design & Technology	3 years (Six Semester)	58	10+2 (in any stream). **Only female candidates**	**ENTRANCE TEST** Admission by the process of counseling.	a. Semester I – Rs.26,000.00 (includes Rs.2,000.00 refundable caution money) b. Semester II – Rs.12,000.00 c. Semester III – Rs.24,000.00 d. Semester IV – Rs.12,000.00 e. Semester V – Rs.24,000.00 f. Semester VI – Rs.12,000.00
9	M. Voc in Media Studies	2 years (Four Semester)	50	Graduation (in any stream)/B.A. in Media Studies /B.Voc. in Media Studies (NSQF Level 7) or equivalent	**ENTRANCE TEST**, Admission by the process of counseling.	a. Semester I – Rs.37,000.00 (includes Rs.2,000.00 refundable caution money) b. Semester II to IV – Rs.35,000.00 per semester
10	Master in Computer Applications(MCA)	2 years (Four Semester)	50	10+2+3 Course from any discipline (B.A./B.Sc./B.Com.) from any recognized university/institution or any other examination equivalent with mathematical aptitude.	**ENTRANCE TEST**, Admission by the process of counseling.	a. First Year – Rs.60,000.00 (includes Rs.5,000.00 refundable caution money) b. Second Year – Rs.55,000.00

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Sr. No.	Courses	Duration	No. of Seats	Eligibility	Admission Procedure	Fee Structure
11	M.Sc. Food Technology	2 years (Four Semester)	78	B.Sc. Examination from any recognized University with Chemistry or Biochemistry as one of their major or minor subjects, B. Sc/B. Voc Food Technology, B.Sc. in Agriculture/Agriculture Sciences or B. Tech./B.E., B.Sc. (Home Science) or equivalent examination	**ENTRANCE TEST** Admission by the process of counseling.	a. Semester I – Rs.32,000.00 (includes Rs.5,000.00 refundable caution money) b. Semester II – Rs.25,000.00 c. Semester III – Rs.27,000.00 d. Semester IV – Rs.30,000.00 For admission to paid seats, the candidate has to pay **Rs.10,000/- per semester in addition to the above fee.**
12	Post Graduate Diploma in Computer Applications(PGDCA)	1 year (Two Semester)	75	10+2+3 in any stream from any recognized university or its equivalent Degree with mathematical aptitude.	**ENTRANCE TEST**, Admission by the process of counseling.	Rs.20,000.00 (includes Rs.2,000.00 refundable caution money)

* Programme run by Centre of Vocational Studies & Skill Development

FOR UG COURSES: In addition to the above fee, the candidate has to pay University dues per year as applicable.

FOR PG COURSES: In addition to the above fee, the candidate has to pay University dues per year as applicable.

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Five Year integrated UG and PG Food Technology Programme
(Based on "National Education Policy-2020")

(Multilevel Exit options) – Table (a)

Exit Level	Exit point certificate / Diploma / Degree Earned
1st Year	Certificate (Food Technology)
2nd Year	Diploma (Food Technology)
3rd Year	UG (Food Technology)
4th Year	UG (Food Technology) 'With Research'
5th Year	5-year Integrated UG and PG Food Technology Programme

Five Year Integrated BCA & MCA (Data Science)
(Based on "National Education Policy-2020")

(Multilevel Entry and Exit options) – Table (b)

Year	Entry point with Eligibility	Exit point certificate / Diploma / Degree Earned
1st Year	A 10+2 passed student From a recognized board in Science / Commerce Stream. In case the student has passed class XII from a recognized board other than the Science / Commerce, he/she must have studied Mathematics / Statistics / Information Technology / Computer Science / Information Science as one of the subject in class XII. He / She must have scored at least 55% marks in class XII	Certificate in Data Science
2nd Year	[Bachelor's Degree in Science / Engineering / Commerce) OR (Bachelor of Arts (BA) with mathematics / statistics as one of the subjects]	Diploma in Data Science
3rd Year	-----------------------	BCA (Data Science)
4th Year	[B. Tech (Computer Science and Engineering / Information Technology)] OR [BCA (3 years degree course)] OR [Bachelor of Science (B.Sc.) degree with Computer Applications / Computer Science / Information Technology as one of the subjects]	BCA(Research)(Data Science)
5th Year	BCA(Research) (Four Year Degree course) or equivalent	MCA (Data Science)

Note:

(a) Students admitted in 1st year may exit after completion of 1st year(certificate), 2nd year (Diploma), 3rd year (BCA), 4th year (BCA(Research)) and 5th year (MCA).

(b) Students admitted in 2nd year may exit after completion of 2nd year (Diploma), 4th year (BCA (Research)) and 5th year (MCA).

(c) Students admitted at 4th year may exit only after completion of 5th year and they will be awarded MCA (Data Science) degree. Such students have to study syllabus of 5th year in their first year of study and syllabus of 4th year in their second year of study.

(d) Students admitted at 5th year may exit only after completion of 5th year and they will be awarded MCA (Data Science) degree.

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Admission Procedures

Application Form shall be filled and submitted Online only on following website.
http://www.aupravesh2022.in OR Admission-2022 link of **www.allduniv.ac.in**

A.   RESERVATION AND SPECIAL CONSIDERATION / QUOTA:

In accordance with provision of Section 9 of the University of Allahabad Act, 2005 (Act No. 26 of 2005) seats shall be reserved for Scheduled Caste (SC), Scheduled Tribe (ST) and Other Backward Classes (OBC) category candidates in all subjects / course for which the Admission Test has been held, as given here under:

(i)   15% of the total seats in each subject / course shall be reserved for candidates belonging to Scheduled Caste (SC) category;

(ii)   7.5% of the total seats in each subject / course shall be reserved for candidates belonging to Scheduled Tribe (ST) category; and

(iii)   27% of the total seats in each subject / course shall be reserved for candidates belonging to Other Backward Caste (OBC) category.

(iv)   In case the seats reserved for Scheduled Tribe (ST) category candidates remain vacant on account of non-availability of candidates the same shall be filled by the candidates of Scheduled Caste (SC) candidates.

(v)   10% of the total seats shall be reserved for candidate belonging to EWS category. Reservation to EWS candidates shall be given by the University as per Govt. of India guidelines, the regulation/norms issued by the UGC.

Note: These rules are indicative and UGC Regulation on Reservation and directives of Ministry of Education as on the date of declaration of Results shall be followed.

B.   Kashmiri Migrants:

Weightage as per Government of India guidelines shall be given to Kashmiri Migrants. In order to avail this weightage, the candidates shall have to present a certificate to this effect from an officer of the Ministry of Education not below the rank of Joint Secretary or equivalent.

C.   NCC Weightage:

A weightage of 5% shall be added to the score obtained by the candidate holding NCC 'B' certificate for UG courses and NCC 'C' certificate for PG courses in the Admission Test / Entrance Test.

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D.   Foreign Nationals/NRI:

Foreign Nationals shall be required to apply through International Students Advisor in accordance with the procedure laid down by the University of Allahabad. The candidate in this case shall not be required to appear in the Admission Test / Entrance Test, but shall be considered for admission on the recommendation of a committee constituted for the purpose, which shall examine the academic credentials and certificates of the candidate before making any recommendation.

E.   Sports Quota:

Under Sports-Quota, at the graduate level only those candidates can be considered for admission who are eligible to participate in Inter-University Tournaments as per Association of Indian Universities (AIU), New Delhi rules and have participated at State and National Championships organized under School Games Federation of India and Junior Level (under 19 years of age) District, Region, State and National Championships organized by various District/State Associations and Federations. The candidates will be selected in order of merit subject to availability of seats.

(i)   The Advisory Committee, Sports Board, University of Allahabad reserves the right to conduct the field trials and verification of documents of any candidate to determine genuineness of the documents.

(ii)   The candidate shall be required to produce all the original game / sports certificate in support of his her claim at the time of admission / interview. The University reserves the right to verify the documents (games / sports certificates etc.) and if found fake, suitable action shall be taken against the candidate.

(iii)   2% of the total seats in each subject/ course shall be allotted under Sports Quota.

(iv)   Admission under sports quota will strictly be on the basis of merit list provided by the advisory committee, Sports Board.

F.   Person with Disability (Divyang):

(i)   As per section 32(1) of the Rights of Persons with Disabilities Act, 2016, all Government institutions of higher education and other higher education institutions receiving aid from the Government shall reserve not less than **five (05) per cent** seats for person with benchmark disabilities. Therefore 5% of total seats for this course will be available for person with disability who can pursue this course without any difficulty.

(ii)   A candidate who has a certified disability of not less than 40 % in any limb or in orthopaedic structure which, in the opinion of the Medical Board (constituted by the University of Allahabad), amounts to an overall physical handicap of not more than 70% or is a certified Visually impaired or a Hearing impaired, may be admitted to the concerned course / subject, irrespective of his position in the order of merit of the total aggregate score, on the recommendation of the Medical Board.

(iii)   Seats under this quota shall be filled in order of preference given below. One percent each shall be reserved for person with benchmark disability under clause (a), (b) and (c), and one percent with benchmark disability under clauses (d) and (e) namely.

    a.   Blindness and low vision.
    b.   Deaf and hard of hearing.
    c.   Locomotor disability including cerebral palsy, leprosy cured, dwarfism, acid attack victims and muscular dystrophy.
    d.   Autism, intellectual disability, specific learning disability and mental illness.
    e.   Multiple disabilities from amongst person from clauses (a) to (d).

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(iv)   The privilege shall not be given except claimed by the candidate at the time of application. At the time of admission the candidate shall be required to produce a certificate issued by the Chief Medical Officer of the appropriate District or by the Viklang Kendra, Allahabad, which testifies to his disability and bears an attested photograph indicating his / her disability clearly.

(v)   All candidates entitled to be admitted under the above quota to a course shall be adjusted against their respective social category.

G.   Teacher/Employee Ward Quota:

i.   After the completion of admission on the sanctioned seats in each course of study, the wife/husband, sons and daughters of regularly appointed serving and retired teachers / employee of the University, the University Institutes, the constituents Colleges and constituents Institutes which we shall call unit hereafter, who produce relevant certificate duly signed by the Registrar in case of University, the Director in case of University Institutes, the Principal in the case of constituent Colleges (units) and the Director in case of constituent Institutes shall be admitted, on the basis of their relative scores against 5% supernumerary seats (with a minimum of one seat) in each course of study, only in the unit in which such Teachers/Employees are serving or from where they have superannuated,

Provided that in case seats remain vacant in a course in the unit, these will be filled by the wards of the employees of other units.

ii.   It is clarified that the unit mentioned in clause (i) means the university/constituent colleges of the university.

iii.   Teacher/Employee Ward benefit will be granted only when the candidate has made such a claim in the Application Form and presents the required documents and certificates at the time of admission. The order of merit for admission shall be determined on the basis of computed marks of the candidate.

Documents to be presented at the Time of Admission

(Without these documents applicant's claim will not be entertained):

(a)   High School or equivalent examination mark-sheet and certificate in original along with a photocopy thereof.

(b)   Intermediate or equivalent examination mark-sheet and Certificate in original along with a photocopy thereof.

(c)   Graduation or equivalent examination mark-sheet and Certificate in original along with a photocopy thereof **(for admission to Post Graduate Courses).**

(c)   Original Transfer Certificate/Migration Certificate for regular candidates at the Qualifying Examination/affidavit duly attested by a Notary/Public Commissioner for private candidates at the Qualifying Examination.

(d)   Test Admit Card issued by the University.

(e)   Additional documents to be produced by the candidates claiming weightage/premium/special Consideration:

i.   For SC/ST, EWS and OBC (Non-creamy layer) category candidates: Recent Caste /Category certificate in original and a photocopy thereof on Central Government format.

ii.   For Kashmiri Migrants: Original and a photocopy of the certificate issued by competent authority for Kashmiri Migrants.

iii.   For NCC candidates: Original and a photocopy of the NCC 'B' (for U.G.) / 'C' certificate (for P.G.).

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iv.   For Sports quota candidates: Original and photocopy of the certificate in support of outstanding contribution in sports at National Level and State Level. For this the candidate will be interviewed by the Board organized by the Advisory Committee, Sports Board, University of Allahabad at the time and place announced by it.

v.   For the applicants of Divyang Quota: Original and a photocopy of the certificate of Physical Disability issued by the Chief Medical officer of a District Hospital or by the Viklang-Kendra, Prayagraj and to appear before a Board of Doctors to assess the intensity of disability/challenge on a date and place given by the Dean Students' Welfare. Admission will be on the basis of list recommended by the Medical Board/Assessment Committee of the University of Allahabad.

(g)   Income certificate of the parent/guardian, issued by the competent authority/ officer in case if   Annual / Family Income have a consideration for any claim of the candidate

How to Apply Online:

i.   The address of the website is **http://www.aupravesh2022.in or** click on the Admission-2022 link of www.allduniv.ac.in.

ii.   After opening the website the name of the Entrance Examination, its online starting date for filling up the form, its date of closing will be displayed. The candidate has to opt the class in which he/she wishes to appear in the Entrance Examination.

iii.   Upon opening the website, buttons will be displayed for downloading the Brochure, and opening the Online Application Form, for Printing Application form and for printing Admit Card. The candidates are advised to read the instructions and click the button to agree and accept the conditions/instructions. Option for printing Admit Card shall be available only from the date given in the schedule for Admission Test.

iv.   The candidate is advised to read the downloaded Brochure before filling up the Application Form. After reading the Brochure carefully the candidate is advised to click the "Apply Online" button. Upon clicking the "Apply Online" button the application form will be displayed on the screen. The candidate is required to fill up the form correctly and as per instructions mentioned in the Brochure. The fields/columns marked with red asterisk are mandatory to be filled.

v.   The scanned copy of photograph and signature as per the specifications mentioned above shall be uploaded at the requisite place in the Application form which is mandatory.

vi.   After filling up the Application Form the candidate can view his filled up application form with the use of preview application form button.

vii.   After ensuring that all the entries have been filled up by the candidate correctly. The candidate can submit the form online by entering the correct image code displayed on the screen.

Online Payment:

a.   **The details of payment mode will be displayed then click PAY ONLINE.**

b.   **On clicking PAY ONLINE button the applicant will be connected to _____ gateway for payment.**

c.   **Then select payment option (Credit Card, Debit Card or Net Banking).**

d.   **Then fill the details as required and then submit the application form & get a printout of application form.**

viii.   For printing the Admit Card the candidate shall be required to fill in the Application ID and Date of Birth.
     For the convenience of the online application Help Desk has been setup for the Online Form submission and the phone numbers are +91-9453819479, 9453819486, 9453819385.

ix.   **The University may cancel the candidature of such applicants who furnish incomplete, wrong or deliberate misinformation; or concealment of facts in Online Registration Form.**

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x. The information provided and the data supplied by the applicant through Registration Form shall be preserved in the University for a period of only six months from the date of the declaration of the result of Entrance/Admission Test. The records will be disposed of after the said period and no enquiry shall be entertained in this regard by the University after the expiry of the said period. The University shall use this data for various purposes; hence, in no case shall any change be allowed at a later stage. Therefore, all the information must be furnished correctly, completely and clearly by the applicant himself/herself as per the instructions given in the brochure/website **http://www.aupravesh2022.in**

xi. The Evaluated OMR Answer Sheets/Online Answer Booklets will be preserved only for a period of six months after the declaration of results of Entrance/Admission Test. The records will be disposed off after the said period and no enquiry shall be entertained in this regard by the University after the expiry of the said period.

Admit Card : Admit Card for all the valid applications received by the University will be processed and enabled on the website. The Candidates can download their admit card from the website after entering their Application ID and Date of Birth. All Admit Cards will be uploaded for all the valid applications. University will not be sending any admit card by post or distribute them from the counters.

GENERAL RULES FOR STUDENTS

- The Under-Graduate and Post-Graduate degree courses are Regular and fulltime courses and the students shall not be permitted to join any other course with it.
- The students whose attendance in the prescribed subjects of Study, Seminar, Classes and Computer training or any other course prescribed in the semester falls short of the required 75% shall not be allowed to appear at the examinations.
- In case of shortage of attendance a letter may be sent to the guardian for instructing their wards to make up the attendance.
- Chewing of Tobacco, Pan-Masala, Gutkha etc. and smoking or indulging in any kind of intoxication in or outside the campus shall be dealt with strictly.
- Students must note that they should not indulge in ragging in or outside the premises of the University. In case of any complaint of ragging, the student complained against will face immediate suspension, enquiry and punishment which may extend up to expulsion from the University and lodging of criminal proceedings.
- Students must behave properly in and outside the classes. Any students, who misbehaves, indulges in misconduct and indiscipline, uses unfair means in the examinations shall be strictly dealt with as per rules.
- Students will have to abide by the rules and regulations of the University of Allahabad.

_____

For convenience of applicants applying online, a Help Desk, offering following phone number and email ID, has been setup by University of Allahabad

Helpdesk No.: +91-9453819479, 9453819486, 9453819385

Helpdesk email ID: helpdesk.aupravesh2022@gmail.com

Note: Call centre timing – 10:00 AM to 07:00 PM (All Days)

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Syllabus for Entrance Test

- ## Bachelor of Computer Applications (BCA)
- ## Five Year Integrated BCA & MCA (Data Science)
- ## B. Voc. Degree Programme in Software Development

The questions in this paper will cover: Logical Reasoning, Quantitative Reasoning, Intermediate level Mathematics, Vocabulary, Intermediate level Computer Awareness, English Comprehension and Verbal Ability.

1. **General English:**

   Questions in this section will be designed to test the candidates' general understanding of the English language.

   There will be questions on the following topics: Comprehension, Vocabulary, Basic English Grammar (like usage of correct forms of verbs, prepositions and articles), Word power, Synonyms and Antonyms, Meanings of words and phrases, Technical writing.

2. **Analytical Ability, Logical Reasoning, General Knowledge and General Science General Aptitude:**

   The main objective of this section is to assess the General Aptitude of the candidate to pursue Computer Application and Software Profession.

3. **Mathematics:**

   Algebra: Fundamental Operations in Algebra, Expansion, Factorization, Quadratic Equations, Indices, Logarithms, Arithmetic, Geometric and Harmonic Progressions, Binomial Theorem, Permutations and Combinations;

   Probability and Statistics : Basic concepts of Probability Theory, Averages, Frequency Distributions, and Measures of Dispersions and Skewness Binomial, Poisson, Normal Distributions, Curve Fitting, and Principle of Least Squares, Correlation and Regression.

   Arithmetic: Ratios and Proportions, Problems on Time-Work, Distance-Speed, Percentage.

   Basic Set Theory and Functions: Set, Relations and Mappings.

   Mensuration: Areas, Triangles and Quadrilaterals, Area and Circumference of Circles, Volumes and Surface Areas of Simple Solids such as Cubes, Spheres, Cylinders and Cones.

   Limits, Continuity and Differentiability, Differentiation, Application of Derivatives, Indefinite and Definite Integration, Differential Equations, Co-ordinates and Straight Lines, Circles, Conic Sections, Complex Numbers, Sequences and Series, Exponential and logarithmic Series, Determinants and Matrices.

4. **Computer Awareness:**

   Computer Basics: Organization of a Computer, Central Processing Unit (CPU), Structure of Instructions in CPU, Input / Output Devices, Computer Memory, Memory Organization, Back-up Devices. Operating System.

   Data Representation: Representation of Characters, Integers and Fractions, Binary and Hexadecimal representations, Binary Arithmetic: Addition, Subtraction, Division, and Multiplication.

   Logic Algebra: Boolean Algebra, Theorems, Switching Functions, Disjunctive and Conjunctive, Canonical forms of switching functions, Combinational and Sequential Circuits.

   Computer Architecture: Block Structure of Computers, Communication between Processor and I/O Devices, Interrupts.

   Computer Language: Algorithms, Flow Chart, Control Structures, Design of Algorithm, Concepts of Low Level, Intermediate Level and High Level Language Programming in 'C'.

Admission Exam Pattern

The Question Paper is comprised of-

1.	General English	25 Questions
2.	Reasoning and General Knowledge	25 Questions
3.	Mathematics	50 Questions
4.	Computer	50 questions

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Master in Computer Applications (MCA)

The questions in this paper will cover: Logical Reasoning, Quantitative Reasoning, Intermediate level Mathematics, Vocabulary, Computer Awareness, English Comprehension and Verbal Ability

1. **General English:**

   Questions in this section will be designed to test the candidates' general understanding of the English language. There will be questions on the following topics: Comprehension, Vocabulary, Basic English Grammar (like usage of correct forms of verbs, prepositions and articles), Word power, Synonyms and Antonyms, Meanings of words and phrases, Technical writing.

2. **Analytical Ability, Logical Reasoning, General Knowledge and General Science:**

   General Aptitude: The main objective of this section is to assess the general aptitude of the candidate to pursue computer application and software profession.

3. **Mathematics:**

   Algebra: Fundamental Operations in Algebra, Expansion, Factorization, Quadratic Equations, Indices, Logarithms, Arithmetic, Geometric and Harmonic Progressions, Binomial Theorem, Permutations and Combinations;

   Probability and Statistics : Basic concepts of Probability Theory, Averages, Frequency Distributions, and Measures of Dispersions and Skewness Binomial, Poisson, Normal Distributions, Curve Fitting, and Principle of Least Squares, Correlation and Regression.

   Arithmetic: Ratios and Proportions, Problems on Time-Work, Distance-Speed, Percentage.

   Basic Set Theory and Functions: Set, Relations and Mappings.

   Mensuration: Areas, Triangles and Quadrilaterals, Area and Circumference of Circles, Volumes and Surface Areas of Simple Solids such as Cubes, Spheres, Cylinders and Cones.

   Limits, Continuity and Differentiability, Differentiation, Application of Derivatives, Indefinite and Definite Integration, Differential Equations, Co-ordinates and Straight Lines, Circles, Conic Sections, Complex Numbers, Sequences and Series, Exponential and Log Series, Determinants and Matrices.

4. **Computer Awareness:**

   Computer Basics: Organization of a Computer, Central Processing Unit (CPU), Structure of Instructions in CPU, Input / Output Devices, Computer Memory, Memory Organization, Back-up Devices. Operating System.

   Data Representation: Representation of Characters, Integers, and Fractions, Binary and Hexadecimal Representations, Binary Arithmetic: Addition, Subtraction, Division, and Multiplication. Logic Algebra: Boolean Algebra, Theorems, Switching Functions, Disjunctive and Conjunctive, Canonical forms of Switching Functions, Combinational and Sequential Circuits.

   Computer Architecture: Block Structure of Computers, Communication Between Processor and I/O Devices, Interrupts.

   Computer Language: Algorithms, Flow Chart, Control Structures, Design of Algorithm, Concepts of Low Level, Intermediate Level and High Level Language Programming in 'C'.

Admission Exam Pattern

The Question Paper is comprised of-

1.	General English	25 Questions
2.	Reasoning and General Knowledge	25 Questions
3.	Mathematics	50 Questions
4.	Computer	50 questions

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Post Graduate Diploma in Computer Applications (PGDCA)

1. **English Language:** Comprehension, Vocabulary Test, Misspelled words, Error in Sentences, English Usage, English Structure, Word Usage, Synonyms & Antonyms, Idioms and Phrases, One word Substitution, Jumbled Words, Fill in the Blanks

2. **Reasoning:** Analogy (establishment of similarity in certain aspects, properties and relations); Classification; Series (the general principle of progression or retrogression);

    Quantitative Aptitude: Mental Ability, Arithmetic, Algebra, Geometry, Trigonometry, Mensuration, Statistics;

3. **General Awareness:** History, Freedom Movements etc., Geography, Current Events, Sports, General Science, General Information, Abbreviations etc.

4. **Number System:** Conversion from one base to another; Basic Knowledge of Combination Circuits and Sequential Circuits;

    Computer Fundamentals: Units of Digital Computer, CPU, Primary & Secondary Memory, I/O Devices, Basic Programming Concepts, Design of Flow Chart and Algorithms;

Admission Exam Pattern

The Question Paper is comprised of-

1.	General English	25 Questions
2.	Reasoning & Quantitative Aptitude	50 Questions
3.	General Awareness	25 Questions
4.	Computer	50 questions

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Five Year Integrated UG & PG Food Technology Programme#
and
B. Voc. Food Processing &Technology

The question paper will be divided into three sections, **Section A (General Awareness)** and **Section B (Chemistry)** having 50 questions each, is compulsory for all the candidates, whereas, candidates are required to attempt any one of the following subject groups from **Section C** having 50 questions:

1. Biology Group   **2. Maths Group**   **3. Agriculture Group**

(The questions will be of up to 10+2 level)

1. **GENERAL AWARENESS**

2. **CHEMISTRY**

   Some Basic Concepts of Chemistry, Solid State, Structure of Atom, Classification of Elements and Periodicity in Properties, Chemical Bonding and Molecular Structure. Chemical equilibrium, Electro-chemistry, Chemical Kinetics, States of Matter: Gases and Liquids, Surface Chemistry, Solutions, Thermodynamics, Redox Reactions.

   General Principles and Processes of Isolation of Elements, Equilibrium, p- Block Elements, d and f Block Elements, Hydrogen, Ozone, Coordination Compounds, s-Block Element (Alkali and Alkaline earth metals), , Some p-Block Elements.

   Organic Chemistry- IUPAC Nomenclature, Isomerism, Some Basic Principles and Techniques, Hydrocarbons (Alkanes, alkenes, alkynes), haloalkanes, Alcohols, Phenols and Ethers, Aldehydes, Ketones and Carboxylic Acids, Carboxylic acid derivative, Subsituted and unsubstitued aromatic compounds, Nitrogen containing organic compounds , Environmental Chemistry, Biomolecules, Polymers, Chemistry in Everyday Life.

3. **BIOLOGY**

   The Living World and Biological Classification- Binomial nomenclature; tools for study of taxonomy-museums, zoological parks, herbaria, botanical gardens. Five kingdom classification. Salient features and classification of plants into major groups. Salient features and classification of animals.

   Morphology of Flowering Plants and Anatomy of Flowering Plants- Morphology , modifications,Anatomy and functions of different parts of flowering plants: root, stem, leaf, inflorescence, flower, fruit and seed .

   Cell Biology and Biomolecules- Cell theory and cell as the basic unit of life: Structure of prokaryotic and eukaryotic cells; Plant cell and animal cell; Cell envelope, cell membrane, cell wall; Cell organelles-structure and function. Chemical constituents of living cells. Cell cycle, mitosis, meiosis and their significance.

   Plant Physiology-Transport in Plants, Mineral Nutrition, Photosynthesis in Higher Plants, Respiration in Plantsand Plant - Growth and Development

   Animal Physiology – Integumentary system, Digestive system circulatory system, Skelton system Respiratory system, Circulatory system, Excretory system Nervous system, Endocrine system, Reproductive Biology Genetics and Evolution- Principles of Inheritance and Variation, Molecular Basis of Inheritance, Evolution-Origin of life; Biological evolution and evidences for biological , Darwin's contribution, Modern Synthetic theory of Evolution; Mechanism of evolution - Variation (Mutation and Recombination) and Natural Selection with examples, types of natural selection.

   Application Biology- Human Health and Diseases Malaria, Filariasis, Ascariasis, Typhoid, Pneumonia, common cold, amoebiasis, ring worm); Basic concepts of immunology -vaccines; Cancer, HIV and AIDs;

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Adolescene, drug abuse. Strategies for Enhancement in Food Production, Application of Biotechnology in health and agriculture: Human insulin and vaccine production, Genetic engineering (Recombinant DNA technology).

Ecology and Environment: Patterns, components; productivity and decomposition; energy flow; pyramids of number, biomass, energy; nutrient cycles (carbon and phosphorous); ecological succession; ecological services - carbon fixation, pollination, seed dispersal, oxygen release (in brief).

Air pollution and its control; water pollution and its control; agrochemicals and their effects; solid waste management; radioactive waste management; greenhouse effect and climate change; ozone layer depletion; deforestation; any one case study as success story addressing environmental issue(s).

Concept of biodiversity; patterns of biodiversity; importance of biodiversity; loss of biodiversity; biodiversity conservation; hotspots, endangered organisms, extinction, Red Data Book, biosphere reserves, national parks, sanctuaries and Ramsar sites.

4. (i) MATHS

Algebra: Arithmetic and geometric progressions, arithmetic mean, geometric mean, harmonic mean and related inequalities, polynomial equations, roots of polynomials, matrices, determinants, linear equations, solvability of equations, binomial theorem and multinomial theorem, permutations and combinations, mathematical induction. prime numbers and divisibility, GCD, LCM, modular arithmetic logarithms, probability.

Geometry: Vectors, triangles, two dimensional geometry of Conics - straight lines, parabola, hyperbola, ellipses and circles, tangents, measurement of area and volume, co-ordinate geometry.

Trigonometry: addition, subtraction formulas, double-angle formulas.

Calculus: Limits, continuity, derivatives, integrals, indefinite and definite integrals, maxima and minima of functions in a single variable, series and sequences, convergence criterion. Complex numbers, roots of unity.

(ii) PHYSICS

Units and dimensions, Sl units, displacement, velocity, kinematics in one and two dimensions with constant acceleration, projectiles, motion, concepts of relative motion, circular motion. Newton's

Laws of motion, concepts of inertial frame, momentum and energy, universal law of gravitation, variation of the acceleration due to gravity with altitude and latitude. Kepler's Law of motion of planets and satellites, simple harmonic motion.

Centre of mass of a system of particles, elastic and inelastic collision in one dimension, rigid bodies, moments of inertia of simple shapes like ring, disc, cylinder and sphere, angular momentum, torque, conservation of angular momentum. Hook's law. Young's Modulus shear and bulk moduli, principle of buoyancy, pressure in a fluid wave motion. Concepts of amplitude, frequency and phase, longitudinal and transverse waves, progressive and stationary waves, vibration of string and air columns, resonance, Doppler's effect, Thermal expansion of solids, liquids, and gas, gas laws, absolute temperature, specific heat, C_p, C_v, isothermal and adiabatic processes, calorimetry, latent heat equivalence of heat and work, conduction, convection and radiation, Elements of Kinetic Theory of gases, pressure of an ideal gas equipartition of energy.

Coulomb's law, electric field, lines of force, electric potential. capacitors in series and parallel, energy stored in a capacitor, electric current Ohm's law, Series and parallel arrangement of resistances and cells, Krichoff's Laws, Wheatstone bridge and its applications, heating effect of current, current carrying wire in a magnetic field, moving coil, galvanometer, ammeter, voltmeter, Ampere's law, Faraday's Law, Lorentz Force, effect of magnetic field on current carrying conductors, Maxwell's equations, curved mirrors and thin lenses, of light, interference phenomena, Young's double silt experiment, fringe width, polarization of light, cathode rays radioactive law of decay, half life, photo-electric effect, Bohr's theory of hydrogen like

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atoms, X-rays production and properties, diode rectification and triode amplification, Atomic nucleus, binding energy. Nuclear energy by fission and

fusion, elementary properties of semi conductors and devices based on them, Michelson Morley experiment, postulates of special theory of relativity.

5. **AGRICULTURE**

Crop Production: Targets and achievement in food grain production in India since independence and its future projections, sustainable crop production, commercialisation of agriculture and its scope in India. Classification of field crops based on their utility-cereals, pulses, oils seeds, fibre, sugar and forage crops.

Soil, Soil fertility, Fertilizers and Manures: Soil: characteristics, Essential plant nutrients, functions and deficiency symptoms. Soil types of India and their characteristics, Organic nature, common fertilizers and biofertilizers; integrated nutrient management system.

Irrigation and Drainage. Sources of irrigation, Water requirement of crops, Methods of irrigation and drainage. Watershed management, Weed Control: Principles & methods of weed control, Seed bed preparation, seed treatment, time and method of sowing/planting, seed rate; dose method and time of fertilizer application, irrigation, interculture and weed control; common pests and diseases, integrated pest management, harvesting, threshing, post harvest technology: storage, processing and marketing of major field crops.

Horticulture: Importance of fruits and vegetables in human diet, Crop diversification & processing Industry. Orchard-location and layout, ornamental gardening and kitchen garden. Planting system, training, pruning, intercroping, protection from frost and sunburn. Trees, shrubs, climbers, annuals, perennials-definition and examples. Propagation by seed, cutting, budding, layering and grafting. Cultivation practices, processing and marketing of: Fruit, Vegetables, Flowers, Principles and methods of fruit and vegetable preservation. Preparation of jellies, jams, ketchup, chips and their packing.

Animal husbandry: Study of major breeds of cows, buffaloes, goat, sheep and poultry; elementary physiology and anatomy of cows and bullocks; estimate of their age; characteristics of good milch cows and buffaloes, bulls and bullocks. Care and management of pregnant cow, during calving, newborn calves, young calves, mulch cows; poultry management.

Admission Exam Pattern

The Question Paper is comprised of-

1.	General Awareness **(Compulsory)**	50 Questions	
2.	Chemistry **(Compulsory)**	50 Questions	
3	Biology **(optional 1)**	50 Questions	
4.	Mathematics Physics **(optional 2)**	25 Questions 25 Questions	50 Questions
5.	Agriculture **(optional 3)**	50 questions	

Note: The candidates have to do questions from Biology or (Mathematics + Physics) or Agriculture.

M. Sc. Food Technology

The question paper will be divided into three sections, **Section A** (General Awareness) and **Section B** (Chemistry) having 50 questions each is compulsory for all the candidates, whereas, candidates are required to attempt any one of the following subject groups from **Section C** having 50 questions:

1. Biology Group   **2. Maths Group**   **3. Food and Dairy Technology Group**

4. Agriculture Group   **5. Home Science Group** (The questions will be of up to Graduate level)

1. **GENERAL AWARENESS**

2. **CHEMISTRY:**
    (a) Inorganic Chemistry
    *   Periodic table: Periodic classification of elements, periodicity in properties. General methods of isolation and purification of elements.
    *   Chemical bonding: Types of bonding. VSEPR theory and shapes of molecules. Hybridization, dipole moment. Ionic solids - lattice energy. Structure of diamond and graphite.
    *   Main group elements (s and p blocks): Chemistry with emphasis on group relationship and gradation in properties; structure of electron deficient compounds of main group elements and application of main group elements.
    *   Transition metals (d block): Characteristics of d-block elements. Coordination compounds of first row transition elements, bonding in coordination compounds – VBT and CFT of tetrahedral and octahedral complexes. Application of CFT to spectral and magnetic properties. Electronic spectra of coordination compounds.
    *   Organ metallic compounds: Concept of hepticity, 18 electron rule. Carbonyl compounds of first row of transition metals.
    *   Non aqueous solvents: General characteristics, reactions with reference to ammonia and liquid sulphur dioxide.
    *   Acids and Bases: Lewis and HSAB concepts
      Nuclear Chemistry: Radioactivity, nuclear reactions, applications of isotopes.

    (b) Organic Chemistry
    *   Nomenclature of Organic compounds.
    *   Mechanism of Organic reactions: Electronic effects in Organic molecules – Inductice
    *   effect, polarazability effect, resonance, hyperconjugation. Formal charge. Generaltion, structure and general reactions of reactive intermediates –Carbocation, carbanion, carbon radical.
    *   Stereochemistry: Types of isomerism. Projection formulae,chirality, assigning stereochemical descriptors to chiral centres and geometric isomers. Optical isomerism in compounds containing one and two asymmetric centers. Conformations of cyclohexanes.
    *   Aromaticity and Huckel's rule: Mono and bicyclic carbocyclic aromatic hydrocarbons and their electrophioic substitution reactions.
    *   Synthetic chemistry: Methods of preparation and characteristic reactions of alkanes, alkenes, alkynes (including their cyclic analogues), arenes and their simple functional derivatives, such as alkyl, halo, nitro, hydroxyl, alkoxy, formyl, carboxyl (and carboxylic acid derivatives. Functional group interconversions. Grignard reagents, acetoacetic and malonic ester chemistry. Synthesis of simple compounds. Structure determination and synthetic problems using chemical reactions.
    *   Mechanism (with stereochemistry): Aliphatic nucleophilic substitution, elimination, enolate reactions, Claisen condensation, esterification and ester hydrolysis, Cannizzaro reaction, benzoin condensation, Perkin reaction, Claisen rearrangement, Beckmann rearrangement, Wagner-Meerwein rearrangement.
    *   Carbohydrates: Classification, nomenclature. Open and cyclic formulae. Chemistry of glucose.

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- Amino acids and peprides: Structure, stereochemistry, and characteristics reactions of amino acids. Structure of peptides.
- Heterocyclic chemistry: Monocyclic 5- and 6-membered aromatic compounds with one hetero atom (S,O,N). Their nomenclature, electronic structure, aromaticity, characteristic
- Properties and general reactions.

(c) Physical chemistry

- Atomic structure: Fundamental particles. Bohr's theory of hydrogen atom; Wave-particle duality; Uncertainty principles; Schrodinger's wave equation; Quantum numbers, shapes of orbitals; Hund's rule and Pauli's exclusion principle.
- Theory of gases: Kinetic theory of gases. Real and ideal gases, critical phenomenon.
- Chemical thermodynamics: Reversible and irreversible processes. First law and its application to ideal and no ideal gases. Thermo-chemistry. Second law. Entropy and free energy, Criteria for spontaneity.
- Chemical and Phase equilibria: Law of mass action; K_p , K_c, K_x and K_n ; Effect of temperature on K; Ionic equilibria in solutions; pH and buffer solutions; Hydrolysis; Solubility product; Phase equilibria– Phase rule and its application to one-component and two-component systems; Colligative properties.
- Electrochemistry: Conductance and its applications; Transport number; Galvanic cells; EMF and Free energy. Liquid junction potential and concentration cells. Application of emf measurement for determination of K, G, H, S. Stability of complexes.
- Chemical kinetics: Reactions of various order, Arrhenius equation, Collision theory; Theory of absolute reaction rate; Chain reactions - Normal and branched chain reactions; Enzyme kinetics; Photophysical and photochemical processes; Catalysis.
- Quantum chemistry: Elementary quantum chemistry, state function, operators, eigen values and eigen functions.

(d) Analytical Chemistry

Classification of analytical methods. Performance characteristics of analytical methods. Errors and their types. Acid-base titrations and acid-base indicators, redox titrations, conductometric and potentiometric titrations.

3. **FOOD AND DAIRY TECHNOLOGY**

Food Processing: Definition and scope of Food Science and Technology, Sources of food, scope and benefit of industrial food preservation, perishable, non perishable food. Methods of food preservation.

Food Engineering: Mass and energy balance, Principles operations and equipment for Processing of food materials, various unit operations, water and waste water treatment, biochemical engineering and thermo bacteriology. Food plant layout and design. Energy audit.

Food Science: Cereals and Pulses, Millets, Fats and Oils, Fruits and Vegetables, Meat, Poultry, Fish and egg – composition, nutritive value, processing, Preparation of Processed and preserved foods.

Food Microbiology : Food hygiene and sanitation, Classification of microbes, Structure of microbes, Metabolism of microbes, Food microbiology and spoilage of fruits and vegetables, milk and milk products, cereals and cereal products, Thermal inactivation of microbes: pasteurization, sterilization etc. concept of TDT, F, Z and D values. Factors affecting heat resistance.

Food Packaging: Packaging materials, Properties of packaging material, advantages and their applications.

Sensory evaluation: Objectives, type of food panels, characteristics of panel member, sensitivity tests, threshold value, paired comparison test, duo-trio test, triangle test, hedonic scale.

Quality Control & Assurance, Food laws & Regulations, Auditing and Certification.

Food Business Management & Entrepreneurship.

General Biochemistry & Biotechnology.

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Dairy Technology: Definition, composition of milk, Present milk industry scenario and its future, Practices related to procurement, transportation and processing of milk, Technology of dairy products.

4. AGRICULTURE

Agrometerology: Elements of Weather-rainfall, temperature, humidity, wind velocity, Sunshine weather forecasting, climate change in relation to crop production.

Genetics & Plant Breeding : Cell and its structure, cell division-mitosis and meiosis and their significance, Organization of the genetic materials in chromosomes, Mendel's laws of inheritance. Quantitative inheritance, continuous and discontinuous variation in plants. Monogenic and polygenic inheritance. Role of Genetics in Plant breeding, self and cross-pollinated crops, methods of breeding in field crops-introduction, selection, hybridization, mutation and polyploidy, tissue and cell culture. Plant Biotechnology-definition and scope in crop production.

Biochemistry: pH and buffers, Classification and nomenclature of carbohydrates; proteins; lipids; vitamins and enzymes.

Microbiology: Microbial cell structure, Micro-organisms- Algae, Bacteria, Fungi, Actinomycetes, Protozoa and Viruses. Role of micro-organisms in respiration, fermentation and organic matter decomposition

Livestock Production: Scope and importance**,** Important breeds Indian and exotic, distribution of cows, buffaloes and poultry in India.

Care and management : Systems of cattle and poultry housing,Principles of feeding, feeding practices. Balanced ration-definition and ingredients. Management of calves, bullocks, pregnant and milch animals as well as chicks crockrels and layers, poultry. Signs of sick animals, symptoms of common diseases in cattle and poultry, their prevention and control.

Artificial Insemination: Reproductive organs, collection, dilution and preservation of semen and artificial insemination, role of artificial insemination in cattle improvement.

Livestock Products: Processing and marketing of milk and Milk products.

Crop Production: Introduction: Targets and achievements in food grain production in India since independence and its future projections, sustainable crop production, commercialization of agriculture and its scope in India. Classification of field crops based on their utility-cereals, pulses, oils seeds, fiber, sugar and forage crops.

Soil, Soil fertility, Fertilizers and Manures: Soil, soil pH, Soil texture, soil structure, soil organisms, soil tilt, soil fertility and soil health. Essential plant nutrients, their functions and deficiency symptoms. Soil types of India and their characteristics. Organic manure, common fertilizers including straight, complex, fertilizer mixtures and bio fertilizers; integrated nutrient management system.

Irrigation and Drainage: Sources of irrigation (rain, canals, tanks, rivers, wells, tube wells). Scheduling of irrigation based on critical stages of growth, time interval, soil moisture content and weather parameters. Water requirement of crops. Methods of irrigation and drainage. Watershed management

Weed Control: Principles of weed control, methods of weed control (cultural, mechanical, chemical, biological and integrated weed management).

Crops: Seed bed preparation, seed treatment, time and method of sowing planting, seed rate; dose, method and time of fertilizer application, irrigation, intercultural and weed control; common pests and diseases, caused by bacteria, fungi virus and nematode and their control, integrated pest management, harvesting, threshing, post-harvest technology: storage, processing and marketing of major field crops.

Horticulture: Importance of fruits and vegetables in human diet, Crop diversification & processing Industry. Orchard-location and layout, ornamental gardening and kitchen garden. Planting system, training, pruning, intercropping, protection from frost andsunburn, Trees, shrubs, climbers, annuals, perennials-definition and examples. Propagation by seed, cutting, budding, layering and grafting. Cultivation practices, processing and marketing of: Fruits, Vegetables, and Flower, Principles and methods of fruit and vegetable preservation.

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5. HOME SCIENCE

Food & Nutrition. Elements of Human Nutrition i.e. Food groups and the nutrients contributed by each group to the diet, composition and nutritive value of foods; functions of food nutrients, dietary allowances and nutritional requirements, meal planning i.e.

principles menu planning for normal individuals for different age groups and at different stages of life, diet modification of diets for different disease conditions- fever, diarrhoea, constipation, cardiovascular diseases, renal diseases, hepatic diseases, diabetes, community nutrition and health, , policy and programmes in India. Organic and genetically modified foods.

Nutritional Biochemistry: Carbohydrate, Lipids and Protein-Classification, functions, Metabolism of carbohydrates, lipids and protein, Enzymes and Hormones

Food Science: General chemistry of food constituents, physical properties of foods, Minerals in foods, food processing and preservation, physicochemical changes in foods during processing and storage, Biological value and PER. Food additives, contaminants and anti-nutritional factors. National and international food standards, food related laws, modern analytical techniques in food analysis.

Human Development & Family Studies/Child Development. Introduction to child/human development - meaning, concept, principles, prenatal development (conception to child birth), care of new born, prenatal and post natal care of mother, development of child in early and late childhood, early childhood education, adolescence, development and relationship with peers & family, marriage and family dynamics, meaning, definition of family life cycle, family welfare programmes in India, community education, child studies methods, participation in pre-school/crèche.

Home Management/ Family Resource Management: Concept and principles of management, management process, work, work environment, work simplification, fundamentals of housing, principles of design & home furnishing-selection, care and maintenance of accessories, equipments, furniture, paintings, family finance/economics and consumer education. Functional interiors for special needs.

Clothing & Textiles: Introduction to clothing construction- Sewing machine its parts and use, preparation of fabric for lay out textile fibre-classification, processing/manufacturing method, clothing need of family members, household textile and consumers, weaving and hosiery, traditional textiles and embroideries of India, care of clothing and textile finishes, dying & printing. Organic dyes.

Home Science Extension Education. Introduction to Home Science Education communication and extension methods, programme planning & evaluation, entrepreneurial education, projected and nonprojected aids (audio-visual aids) rural development programmes in India. Empowerment of women.

6 (i) MATHEMATICS

Algebra:

(a) Groups, homomorphisms, cosets, Lagrange's Theorem, Sylow Theorems, symmetric group Sn, conjugacy class, rings, ideals, quotient by ideals, maximal and prime ideals, fields, algebraic extensions, finite fields.

(b) Matrices, determinants, vector spaces, linear transformations, span, linear independence, basis, dimension, rank of a matrix, characteristic polynomial, eigenvalues, eigenvectors, upper triangulation, diagonalization, nilpotent matrices, scalar (dot) products, angle, rotations, orthogonal matrices, GLn, SLn, On, SO2, SO3.

Complex Analysis:

Holomorphic functions, Cauchy-Riemann equations, integration, zeroes of analytic functions, Cauchy formulas, maximum modulus theorem, open mapping theorem, Louville's theorem, poles and singularities, residues and contour integration, conformal maps, Rouche's theorem, Morera's theorem.

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Calculus and Real Analysis:

a) Real Line: Limits, continuity, differentiablity, Reimann integration, sequences, series, limsup, liminf, pointwise and uniform convergence, uniform continuity, Taylor expansions.

b) Multivariable: Limits, continuity, partial derivatives, chain rule, directional derivatives, total derivative, Jacobian, gradient, line integrals, surface integrals, vector fields, curl, divergence, Stoke's theorem.

c) General: Metric spaces, Heine Borel theorem, Cauchy sequences, completeness, Weierstrass approximation.

Topology:

Topological spaces, base of open sets, product topology, accumulation points, boundary, continuity, connectedness, path connectedness, compactness, Hausdorff spaces, normal spaces, Urysohn's lemma, Tietze extension, Tychonoff's theorem.

6. (ii) PHYSICS

Simple Harmonic Motion, Doppler effect, Diode and triode valves, Electromagnetism and magnetism, Thermometry, Archimedes principle, Capacity and condenser, Elasticity surface tension, Photometry Photo-electric effect, Chemical effect of current and thermo-electricity,

Gravitation, Nuclear structure and nuclear energy, Reflection at plane and spherical surface, Refraction through spherical surface, Kinetic theory of gases, Eye optical instrument aberration and defect of vision, Atomic models and spectra, Transmission of heat, X-rays, Work power and Energy, Electric field and potential

Thermodynamics, Adiabatic changes, Semi-conducting devices, Alternating current, Universe, Refraction at plane surface, Wave nature of light, Electromagnetic induction, Isothermal changes, Expansion of solids, liquids and gases, Rotatory motion of rigid bodies, Cathode rays and positive rays, Viscosity and Bernoulli's principle, Calorimetry, Motion in one, two and three dimension, Radio-activity, Electric conduction and heating effect of current

Matter waves, Uniform circulation motion, Simple circuits, Wave motion, Superposition of waves (beats, interference and stationary waves), Vibration of columns and strings, Solids, Newtons law of motion.

7. BIOLOGY:

Introduction, scope and general principles of classification of fungi.

Introduction: A brief idea of microbial diversity; scope of microbiology; a general account of Archaea.

Classification of Bryophytes. Classification of Pteridophytes. Classification of Gymnosperms.

Lower Non Chordata , Higher Non Chordata , Cell Biology and Genetics

Chordata , Animal distribution, Evolution and Developmental Biology , Physiology and Biochemistry.

Applied and Economic Zoology, Biotechnology, Immunology, Biological Tools & Techniques and Biostatistics , Ecology, Microbiology, Animal Behavior, Pollution and Toxicology.

Structure and properties of biomolecules: Carbohydrates - monosacharids, disaccharides, polysaccharides, lipids, amino acids, proteins, vitamins and hormones.

Enzymes: active sites, specificity, mechanisms, factors, general aspects of enzyme kinetics. Bioenergetics: Laws of thermodynamics, concept of Gibb's free energy, high energy compounds.

Biodiversity and Phytogeography : biotic communities and populations, their characteristics and population dynamics. Natural vegetation of India, static and dynamic plant geography, basic principles governing geographical distribution of plants, endemism.

Plant Physiology- Water relations, Transport of water and solutes, Photosynthesis, Plant growth regulators.

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Plant cell and animal cell; Cell envelope, cell membrane, cell wall; Cell organelles- structure and function. Chemical constituents of living cells. Cell cycle, mitosis, meiosis and their significance. Structure and function of cell organelles with special emphasis on mitochondria, golgi bodies, nucleus, ribosome and endoplasmic reticulum.

Animal Physiology – Integumentary system, Digestive system circulatory system, Skelton system Respiratory system, Circulatory system, Excretory system Nervous system, Endocrine system , Reproductive Biology, Process of Blastulation & Gastrulation. Fate Map. Development of Chick up to formation of Primitive streak and mammal, Extra embryonic membranes of chick. Placentation and types of Placenta.

Plant cell and animal cell; Cell envelope, cell membrane, cell wall; Cell organelles- structure and function. Chemical constituents of living cells. Cell cycle, mitosis, meiosis and their significance. Structure and function of cell organelles with special emphasis on mitochondria, golgi bodies, nucleus, ribosome and endoplasmic reticulum.

Genetic diseases and abnormalities, chromosomal aberrations, Eugenics.

Modern Synthetic theory of Evolution; Mechanism of evolution - Variation (Mutation and Recombination) and Natural Selection with examples, types of natural selection.

Genetic engineering (Recombinant DNA technology).

Environmental Biology -Atmosphere: Major zones and its importance, composition of air, Hydrosphere, Lithosphere, Ecosystem - Definition and types , Food chain, food web and ecological pyramids , Energy flow in an ecosystem Biodiversity and its conservation , Causes of reduction of biodiversity , Wildlife conservation acts, Introductory study of national parks and sanctuaries, Hots-pots of biodiversity in India.

Admission Exam Pattern

The Question Paper is comprised of-

1.	General Awareness **(Compulsory)**	50 Questions
2.	Chemistry **(Compulsory)**	50 Questions
3	Food & Dairy Technology **(optional 1)**	50 Questions
4.	Agriculture **(optional 2)**	50 questions
5.	Home Science **(optional 3)**	50 questions
6.	Mathematics (25 questions) + Physics (25 Questions) **(optional 4)**	50 Questions
7.	Biology (**optional 5**)	50 questions

Note: The candidates have to do questions from Food & Dairy Technology **or** Agriculture **or** Home Science **or** Mathematics (physics + math) **or** Biology group.

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B.A. in Media Studies / B. Voc in Media Production

General Knowledge - Indian History, Indian Polity, Geography, Indian Economy, General Science, Computer Knowledge,

Current Affairs- World & India, General awareness about development and public issues,

Language Proficiency - Hindi & English,

Simple Logical & Quantitative Reasoning- Analytical Abilities,

Introduction to Print, Radio, Television & Cinema Industry of India

Admission Exam Pattern

The Question Paper is comprised of-

1.	General Knowledge and Current Affairs	50 Questions
2.	Reasoning	25 Questions
3.	Language (Hindi and English)	25 Questions
4.	Mass Media	50 Questions

M. Voc in Media Studies

General Knowledge - Indian History, Indian Polity, Geography, Indian Economy, General Science, Computer Knowledge.

Current Affairs- World & India, General awareness about development and public issues

Language Proficiency - Hindi & English,

Logical & Quantitative Reasoning- Analytical Abilities,

Introduction to Mass Communication - Meaning & types of communication, Functions & tools of mass communication,

Indian media- History of Print and Broadcast media in general with particular reference to India, Present Media Scenario of India and latest trends and developments in the media, Journalisms, their role and responsibilities, Indian Cinema Industry: History & Present Scenario; Online Journalism & Social Media.

Indian constitution and freedom of speech.

Admission Exam Pattern

The Question Paper is comprised of-

1.	General Knowledge and Current Affairs	50 Questions
2.	Reasoning	25 Questions
3.	Language (Hindi and English)	25 Questions
4.	Mass Media	50 Questions

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B.A in Fashion Design & Technology

General English- nouns, adjectives, common errors, verbs, punctuation ordering of sentences or jumbled up sentences fill in the blanks cloze test, idioms & phrases, choosing the appropriate filler. synonyms and antonyms, reconstruction of sentence & passage. One word substitution, commonly misspelled words. etc.

Computer Fundamental- basics of computers, hardware, software, input & output units, internet basics, primary & secondary memories computer abbreviation.

General Awareness and Current Affairs –Abbreviations / full forms, important days / dates, currency and capital, ministers and their departments, books & their authors, awards & honors, sports, budget, agriculture, movies, current affairs (last 6 months).

Basic Reasoning -Number series, problems based on numbers. approximation wrong number, percentage, relationship, ratio and proportions,

Fashion Events-Fashion weeks, fashion shows, trade shows, exhibitions, awards etc.....

Designers & Brands – National & international designers & their work, logos, catch lines, and brand ambassadors etc..........

Colour Basics- primary & secondary colours, colour significance and association, warm & Cool colours etc....

 Elementary Clothing- Fabrics, prints, apparels, embroideries, traditional costumes etc....

Drawing & Sketching- Sketching and colouring of dresses in accordance with a theme like- party wear, festive wear, office wear etc.

Admission Exam Pattern

The Question Paper is comprised of-

1.	General English	25 Questions
2.	Computer Fundamentals	25 Questions
3	General Awareness and Current Affairs	25 Questions
4.	Basic Reasoning	25 Questions
5.	Fashion Design & Technology	50 Questions