

UTTARAKHAND TECHNICAL UNIVERSITY

Information Brochure

UTTARAKHAND STATE ENTRANCE EXAMINATION – 2019 UKSEE - 2019

For admission to Academic Session 2019-20

in

1. BACHELOR OF PHARMACY (B. Pharm. – I Year)
2. BACHELOR OF HOTEL MANAGEMENT (BHMCT – I Year)
3. MASTER OF COMPUTER APPLICATIONS (MCA – I Year)
4. BACHELOR OF TECHNOLOGY (B. Tech) Lateral Entry 2nd year
5. BACHELOR OF PHARMACY (B. Pharm.) Lateral Entry 2nd year
6. MASTER OF COMPUTER APPLICATIONS (MCA), Lateral Entry 2nd year
7. MASTER OF BUSINESS ADMINISTRATION (MBA – I Year)
8. MASTER OF PHARMACY (M. PHARMA. . – I Year)
9. MASTER OF TECHNOLOGY (M.TECH – I Year)



UTTARAKHAND TECHNICAL UNIVERSITY

Sudhowala, Premnagar, Dehradun – 248 007, Uttarakhand, India

Email: registrar@uktech.ac.in/Coe@uktech.ac.in

Candidates are advised to regularly check the University website www.uktech.ac.in for any updates regarding UKSEE-2019 examination/results/counselling.

IMPORTANT DATES

1	Last date of submission of online application form and fee	11 th May 2019 (Monday) (06:00 PM)
2	Online download of Admit Card	13 th May 2019 From onwards
3	Date of Entrance Examination	18 th & 19 th May 2019
4	Time of Entrance Examination	As per schedule
5	Declaration of results	10th June 2019
6.	Examination Centre for 18 th May	<ul style="list-style-type: none">• Dehradun(online/offline)• Haldwani (online/offline)• Roorkee(online/offline)
7.	Examination Centre for 19 th May	<ul style="list-style-type: none">• Dehradun(online/offline)• Dwarahat (offline)• Gopeshwer (offline)• Haldwani (online/offline)• New Tehri (offline)• Pithoragarh (offline)• Roorkee(online/offline)• Shrinagar(Offline)
8.	Counselling	Month of June/July 2019

1. INTRODUCTION

The University has been assigned the task of conducting UKSEE-2019 for admission to first year of MCA, BHMCT, B. Pharmacy, MBA, M. Pharma, M. Tech and to second year of B. Tech. & B. Pharmacy, MCA programmes offered at University Departments and Government/Private Institutes of Uttarakhand (hereafter referred to as institute) for the academic year 2019-20.

2. IMPORTANT INSTRUCTIONS

- i. The lateral entry seats for B. Tech., B. Pharma., MCA, shall be filled by Uttarakhand Candidates only.
- ii. Admission to an institute implies acceptance by the candidate of all the provisions given in the brochure/prospectus of the University. Any change in the rules, regulations, fees, special conditions, etc. of the institute will apply to him/her.
- iii. The information indicated in the brochure/prospectus of an institute is only for general guidance of the candidates.
- iv. Incomplete application forms will not be accepted.
- v. The candidates are advised to read each and every instruction given in this information brochure very carefully before filling up the Online Application form.
- vi. Do not send the print out of your application form to University but you can keep a copy for your reference.
- vii. A candidate will submit separate application for different courses (B. Pharm. & BHMCT).
- viii. The application form will not be scrutinized, and hence the onus of proving the category of the candidate and eligibility criteria for admission to offered programmes lies solely with the candidate at the time of counselling.
- ix. Request for change of test centre and category shall not be entertained.
- x. The admit card can be downloaded from website www.uktech.ac.in 13th May 2017 onwards.
- xi. Candidate must preserve the admit card till the admission process is over.
- xii. Notwithstanding any provisions in this brochure, with respect to reservation of seats and any particular matter related to admission, the latest Government Order issued by Government of Uttarakhand and the latest norms prescribed by AICTE as valid on the date of admission, shall be applicable. No claim in this regard by the candidate shall be entertained.
- xiii. The result of UKSEE-2019 declared by the Co-ordination Committee shall be final. There is no provision of scrutiny of Answer Books.
- xiv. The Co-ordination Committee is competent to take all decisions on matters relating to

admission and allotment of the institutes mentioned in this Brochure and may frame rules in this regard. The decision of the Co-ordination Committee shall be final.

- xv. If any declaration submitted by the candidate is found to be false at any stage including his/her stay in the institute, his/her admission shall be cancelled and he/she will be liable for prosecution under the law.
- xvi. If a candidate, who is not eligible to appear in the Test, does so, he/she will not have any claim whatsoever for admission.
- xvii. Use of calculator and mobile phones during the examination is strictly prohibited.
- xviii. Candidate is required to write their Roll Numbers only at the space provided on the question booklet (front page) and the OMR answer sheet. A candidate will be disqualified if he/she writes his/her Roll No. or any other identification mark elsewhere in the OMR answer sheet.
- xix. In case of any legal dispute, the jurisdiction will be limited to Lower District Court, Dehradun and High Court, Nainital and will not be subjected to the jurisdiction of any other courts except Supreme Court.
- xx. The eligible candidates who get selected through UKSEE - 2019 will get admission against available state / state quota seats by counselling on merit cum choice basis.
- xxi. The Entrance Examination for admission to above courses (I Year – BHMCT, B. Pharm., MCA and II Year (Lateral Entry) – B. Tech. B. Pharm.) for session 2019-20 will be held on dated 19th May 2019 at Dwarahat, Dehradun, Gopeshwer, Haldwani, Srinagar, Pithoragarh, Roorkee, New Tehri, centres only. The centres for Entrance Examination for I Year – M. Tech., M. Pharm., MBA and II Year (Lateral Entry) – MCA is on 18th May 2019 is Dehradun, Haldwani and Roorkee only.

3. GENERAL INSTRUCTIONS, TERMS AND CONDITIONS

- i. The applicants are required to fill the application form and fee by ONLINE mode. The examination fee shall not be refunded under any circumstances.
- ii. The candidates have to complete the online/offline application form in all respect and also to upload his/her photograph in the appropriate box. The candidates are further advised to re-check the entries/information provided by him/her before submitting the same as there is no option for editing the entries after submission of application form. After submitting the form, the candidate is required to take the print of the submitted form (hard copy). The candidates are advised to retain the copy of the form submitted to the University for their further reference and queries.
- iii. Specifications for photograph are as below:
 - A photograph of minimum 35X45 mm with at least 75% coverage of face & head of the candidate taken after 01-01-2017.
 - A caption indicating name of candidate and date of taking photograph should be there at the bottom of photo.

- Photograph should be taken in a white/very light coloured background.
- The photograph needs to display full front view of the face. Please look directly into the camera with a natural expression.
- Please avoid with reflection of shadow on the face with red eyes.
- The photograph needs to be printed on a high quality paper with at least 600 dpi resolutions.
- The colours must possess the natural appearance and skin tone.
- The photograph must not have been kinks, scratches and stains.

The candidates have to upload and paste the above specifications photograph in application form and advised to keep at least 06 copies of same photographs. The candidates will have to produce the same copy of photograph in the process of counselling and admission etc.

- iv. **Last date for submission of online application form is 11th May 2019 (6:00 PM)**
- v. The admit cards will be available at the university website www.uktech.ac.in w.e.f. 13th May 2019. Admit cards will not be sent by post in any case.
- vi. Only appearing in the UKSEE-2019 does not confer any rights to secure seat in UKSEE course state quota seats. The selection and admission to UKSEE course on a state quota seats in any institute is subject to fulfilling all the eligibility criteria, state reservation policy etc. Mentioned in the Information Brochure and/ or amendments made thereafter till the time of counselling.
- vii. Fee shall neither be carried forward to a future date not refunded under any circumstances.
- viii. In case the information provided by the candidate found wrong in the application form, his/her application will be summarily rejected. If any candidate secures admission in the college/institute by providing wrong information in his/her application, detected later on in due course, his/her admission will be cancelled at the cost and risk of the candidate.
- ix. Candidates' eligibility is purely provisional and is subject to the fulfilment of eligibility criteria as prescribed in this Information Brochure, during subsequent verifications of his/her documents at counselling, admission or afterwards.
- x. University reserves the right to withdraw permission, if any, granted inadvertently to any candidate who is not eligible to appear in the UKSEE-2019 even though his/her admit card/roll number has been issued.
- xi. Instructions in the Information Brochure are liable to change based on decisions consciously taken by the University/Counselling Board/Technical Education Department, Uttarakhand Government from time to time. There is no equity or any rights that are / or deemed to be arising in favour of candidate.
- xii. The candidate must ensure before filling the application form that he/she fulfils the eligibility requirements for admission/appearing in the entrance examination. Change of category is not permitted at later stage. The fee once paid shall not be refunded in the event of rejection of application. Only eligible candidates will be considered for admission.
- xiii. The candidates are advised to give their complete mailing address, ID proof details and correct contact telephone numbers and email in the application form.
- xiv. The records of the Entrance Examination & Counselling shall be preserved only for a period

of one year from the date of the Entrance examination.

- xv. In all the matters relating to examination and admission, the decision of University/Counselling Board and Government of Uttarakhand as the case may be, shall be final.
- xvi. A candidate found using unfair means in the Entrance Examination will invite cancellation of his/her result, non-refund of examination fee and punishment as may be deemed proper by the Examination Committee of the University and as per the provision of law.
- xvii. In case of any ambiguity in interpretation of any of the instructions/terms/rules/criteria the determination of eligibility/conduct of examinations/registration of candidate/information contained herein, the interpretation of the University/Counselling Board as the case may be, will be final and binding.

Candidates MUST bring to the examination centre the following documents in original along with one attested photocopy-

- Admit card issued by the University.
- Any one of the authorized photo IDs* (must be original and non-expired) PAN card /Driving License/Voter ID/ Passport/Aadhar Card.)

* The name of your photo identification must match with your name as shown on your admit card. If your name has been changed due to events such as marriage, you must show the relevant document mentioned at the time of written test (marriage certificate/Divorcee Decree/Legal Name Change Document).

The staff on duty at the examination centre is authorized to verify the identity of candidates and may take steps to verify and record the identity of candidates. Candidates are required to extend requisite cooperation.

Candidate's thumb impression/signature/photographs will be taken twice, first at the time of examination in the presence of invigilator and second at the time of admission in the presence of Principal/admission committee of the institute.

- xviii. The Entrance Examination for admission to above courses (I Year – BHMCT, B. Pharm., MCA and II Year (Lateral Entry) – B. Tech. B. Pharm.) for session 2017-18 will be held on dated 19th May 2019 at Dwarahat, Dehradun, Gopeshwer, Haldwani, Srinagar, Pithoragarh, Roorkee, New Tehri, centres only. The centres for Entrance Examination for I Year – M. Tech., M. Pharm., MBA and II Year (Lateral Entry) – MCA is on 18th May 2019 is Dehradun, Haldwani and Roorkee only.
- xix. Candidates must reach their centre at least one hour before the commencement of the examination. No candidate will be allowed in the examination centre 15 minutes after the commencement of the examination.
- xx. No candidate will be permitted to leave the examination hall before the completion of written examination.
- xxi. Possession/Use of Mobile phones/Electronics devices is strictly prohibited in the premises of Examination Centre. Candidates shall be liable for penal action for Possession/Use of Mobile phones/Electronics devices.
- xxii. Carbon copy of answer sheet will be supplied to the candidates.

4. QUALIFICATIONS AND ELIGIBILITY REQUIREMENTS

As per latest AICTE norms. (www.aicte-india.org)

i. **ENGINEERING & TECHNOLOGY : B.Tech Lateral Entry to 2nd year`
(for Uttarakhand Domicile & Academic domicile only)**

A. Passed Diploma examination from an AICTE approved Institution; with at least 45% marks (40% in case of candidates belonging to reserved category) in appropriate branch of Engineering / Technology.

B. Passed B.Sc. Degree from a recognized University as defined by UGC, with at least 45% marks (40% in case of candidates belonging to reserved category) and passed XII standard with mathematics as a subject.

C. Provided that in case of students belonging to B. Sc. Stream, shall clear the subjects of Engineering Graphics / Engineering Drawing and Engineering Mechanics of the first year Engineering program along with the second year subjects.

D Provided further that, the students belonging to B. Sc. Stream shall be considered only after filling the supernumerary seats in this category with students belonging to the Diploma stream.

E. Provided further that students, who have passed Diploma in Engineering and Technology from an AICTE approved Institution or B. Sc Degree from a recognized University as defined by UGC, shall also be eligible for admission to the first year Engineering Degree courses subject to vacancies in the first year class in case the vacancies at lateral entry are exhausted. However the admissions shall be based strictly on the eligibility criteria as mentioned in A, B,C, and D above.

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ii. **PHARMACY (B.Pharm 1st year)**

Passed 10+2 examination with Physics and Chemistry as compulsory subjects along with one of the Mathematics /Biotechnology / Biology.

Obtained at least 45% marks (40% in case of candidate belonging to reserved category) in the above subjects taken together.

iii. **PHARMACY (B.Pharm Lateral Entry to 2nd year)
(for Uttarakhand Domicile & Academic domicile only)**

Passed Diploma examination in a Program from an AICTE approved Institution, with at least 45% marks (40% in case of candidates belonging to reserved category) in appropriate Program.

iv. **HOTEL MANAGEMENT & CATERING TECHNOLOGY (BHMCT)**

Should have passed 10+2 examination with English as compulsory subject

Obtained at least 45% marks (40% in case of candidate belonging to reserved category) at the qualifying Examination.

v. **MCA (1st Year)**

Recognized Bachelor's Degree of minimum 3 years duration with Mathematics at 10+2 level or at Graduate Level.

Obtained at least 50% marks (45% in case of candidate belonging to reserved category) at the qualifying Examination.

vi. **MCA : Lateral Entry to 2nd year MCA**

(for Uttarakhand Domicile & Academic domicile only)

Recognized Bachelor's Degree of minimum 3 years duration in BCA, B. Sc (IT/Computer Science) with Mathematics as a course at 10+2 level or at Graduate Level.

Obtained at least 50% marks (45% in case of candidate belonging to reserved category) at the qualifying Examination.

MBA

Recognized Bachelor's Degree of minimum 3 years duration. Obtained at least 50% marks (45% in case of candidate belonging to reserved category) at the qualifying Examination.

Admission through counseling will be offered first to CAT / MAT qualified candidates, and if seats remain vacant candidates qualifying the entrance examination of the University UKSEE – 2019 (In order of merit) will be offered

M.Pharma

Bachelor in Pharmacy. Obtained at least 55% marks (50% in case of candidate belonging to reserved category) at the qualifying Examination.

Admission through counseling will be offered first to GPAT qualified candidates, and if seats remain vacant candidates qualifying the entrance examination of the University UKSEE – 2019 (In order of merit) will be offered

M Tech

Bachelor's degree or equivalent in the relevant field as AICTE Norms.

Obtained at least 50% marks (45% in case of candidate belonging to reserved category) at the qualifying Examination.

Admission through counseling will be offered first to GATE qualified candidates, and if seats remain vacant candidates qualifying the entrance examination of the University UKSEE – 2019 (In order of merit) will be offered

Note : (I) Those appearing in qualifying examination may also appear in entrance examination for consideration of Provisional Admission.

(II) Candidate whose result of qualifying examination is not declared at the time of counseling they will not be allowed to appear in the counselling.

(III) For B. Tech Lateral Entry Counselling, first preference will be given to diploma holder and there after seats will be allotted to B.Sc holder candidates.

(IV) The admission in MBA/M.Tech/M.Pharm will be restricted to the candidates appearing in UKSEE 2019, however preference will be given to the candidates who have qualified GATE/MAT/CAT/GPAT at the time of counseling.

5. DOMICILE REQUIREMENTS

Those candidates who have passed/are appearing in the qualifying examination from/in other states, but have domicile of Uttarakhand are eligible to apply for admission under Uttarakhand quota. At the time of counselling, Domicile Certificate must be produced issued by the competent authority.

***Who has passed qualifying examination from Uttarakhand Technical Board/ Universities are also eligible for lateral entry seats but will not be eligible for any reservation**

6. RESERVATIONS

In Government Funded Institutes, the reservations for Uttarakhand candidates will apply as per Uttarakhand Government rules and **for all India seats, the reservations will be applicable as per the Government rules.** For courses conducted by University Departments/Government Engineering Colleges/Institutes, the intake will be through UKSEE-2019 only and the seats will be reserved as per norms of Uttarakhand Government. For self-financing institutes the reservation will be as per norms applicable at the time of counselling.

7. CATEGORY

Candidate in General Category and those claiming reservation of any type must indicate their category in the application form. Subsequent request for change of category shall not be entertained. **Categories must be supported by the relevant certificates to be produced at the time of Counselling,** failing which the candidate shall be treated in general category.

Candidate should note that the OBC certificate must be issued after March 31, 2019.

No request for change of category shall be entertained afterwards.

8. CENTRES FOR ADMISSION TEST

The admission test will be held at various centres listed below, However, Co-ordination Committee UKSEE 2019 reserves the right to allot or cancel any centre. Coordination Committee will make every possible effort to allocate centres to candidates as per their preference or to the nearest place opted by the

candidates However, guarantee cannot be given in this connection and the decision of the Co-ordination Committee, UKSEE-2019 shall be final.

S.No	Centre	Online/Offline	Day
1	Dehradun	Online/offline	18 th May 2019
2	Roorkee	Online/offline	18 th May 2019
3	Haldwani	Online/offline	18 th May 2019

S.No	Centre	Online/Offline	Day
1	Dehradun	Online/offline	19 th May 2019
2	Roorkee	Online/offline	19 th May 2019
3	Haldwani	Online/offline	19 th May 2019
4	Dawarahat	Offline	19 th May 2019
5	Pithoragarh	Offline	19 th May 2019
6	New Tehri	Offline	19 th May 2019
7	Gopeshwer	Offline	19 th May 2019
8	Shrinagar	Offline	19 th May 2019

*If in any centre (online) there are less than 20 students the centre will be considered offline. The detail of online/offline mode of examination will be mentioned in admit card.

9. SCHEME OF WRITTEN TEST

UKSEE- 2019 will be conducted for nine papers with objective type questions. The candidates are required to opt papers and subjects for appearing in the entrance examination.

Scoring

- (i) All objective type questions (four options with single correct answer) would carry one mark for each correct answer.
- (ii) More than one answer indicated against a question will be deemed as incorrect response.
- (iii) There will be no negative marking in objective type question papers. However, a record of incorrect answers given by a candidate will be kept separately. In case two or more candidates secure same total marks, inter-se-merit of such candidates shall be first determined by the number of incorrect answers given by the candidate.
- (iv) All objective type questions are required to be answered on specially designed OMR answer sheets.
- (v) Answers are to be marked using ball point pen (Black/Blue) only. For the purpose of evaluation, Test Booklet Code written by the candidate in the OMR answer sheet will be accepted as final.

Papers and Subjects in the Entrance Examination

Paper	Subjects	Number of Questions	Marks
Paper 1	Physics and Chemistry	50 objective type questions with equal weightage to Physics and Chemistry	50
Paper 2	Mathematics	50 objective type questions	50
Paper 3	Biology	50 objective type questions with equal weightage to Botany & Zoology	50
Paper 4	Aptitude Test for General Awareness (BHMCT)	100 objective type questions	100
Paper 5	Aptitude Test for MCA	100 objective questions	100
Paper 6	Aptitude Test for Engg. Diploma Holders (Lateral Entry)	100 objective type questions	100
Paper 7	Aptitude Test for Pharmacy	100 objective type questions	100
Paper 8	Aptitude Test for B.Sc. Graduates (Lateral Entry)	100 objective type questions	100
Paper 9	Aptitude test for MCA (Lateral entry) for BCA/B.Sc. CS/IT Students	100 objective type questions	100
Paper 10	Aptitude Test for MBA (As per CAT Examination)	100 objective type questions	100
Paper 11	Aptitude Test for M Pharm (As per GPAT Examination)	100 objective type questions	100
Paper 12	Test for M tech - Aptitude, General Knowledge, Knowledge of Basic Mathematics & Computers and Common Engineering Subjects from B Tech)	100 objective type questions	100

Papers to be opted for Different Courses

Courses	Papers
B. Pharm. (I Year)	Paper 1; and Paper 2 or Paper 3
BHMCT (I Year)	Paper 4
MCA (I Year)	Paper 5
MBA (I Year)	Paper 10
M Pharm (I Year)	Paper 11
M Tech (I Year)	Paper 12
Lateral Entry :	
B.Tech. 2nd year (for Engg. Diploma Holders)	Paper 6
B. Pharm 2nd year (for Pharmacy Diploma Holders)	Paper 7
B. Tech. 2nd year (for B.Sc. Graduates)	Paper 8
MCA (Lateral entry) for BCA/B.Sc. CS/IT Students	Paper 9

10. SCHEDULE OF EXAMINATION

Date of Examination	Paper Code	Subjects	Timing	Total Period
18th May 2019 (Afternoon)	Paper 10	Aptitude Test for MBA (As per CAT Examination)	12:00 Noon to 02:00 PM	2.0 Hours
	Paper 11	Aptitude Test for M Pharm (As per GPAT Examination)		
	Paper 12	Test for M tech - Aptitude, General Knowledge, Knowledge of Basic Mathematics & Computers and Common Engineering Subjects from B Tech)		
First Shift 19 th May 2019 (Morning)	Paper 5	Aptitude test for MCA 1 st Year	09:00 AM to 11:00:00 AM	2.0 Hours
	Paper 1; Paper 2 or paper 3	B.Pharma 1 st Year Physics & Chemistry ,Mathematics or Biology		
Second Shift 19 th May 2019 (Afternoon)	Paper 4	Aptitude test for General Awareness (BHMCT 1 st year)	12:00 Noon to 02:00 PM	2.0 Hours
	Paper 9	Aptitude test for MCA (L.E) (for BCA, B. Sc, IT/CS Students)		
Third Shift 19 th May 2019 (Evening)	Paper 6	B.Tech (L.E) Aptitude test for Diploma Holder in Engg.	03:00 PM to 05:00 PM	2.0 Hours
	Paper 7	B.Pharma (L.E)Aptitude test for Diploma Holder in Pharmacy		
	Paper 8	B.Tech (L.E) Aptitude test for B. Sc Graduates		

12. EVALUATION AND DECLARATION OF RESULT

The results of UKSEE-2019 will be declared by June 2019. Based on performance of candidates in UKSEE-2019, separate merit list will be prepared for each course. Merit position, score-card with total marks, marks obtained in each subject and answer keys shall be available on website www.uktech.ac.in after the declaration of result.

In case two or more candidates secure equal marks, inter-se-merit of such candidates shall be determined as follows:

- (a) Firstly, by the number of incorrect answer given. A candidate giving lesser number of incorrect answers will be placed at higher merit.
- (b) Second by Age only (Candidate with higher age will be placed at higher merit)
- (c) By marks in qualifying examinations.

Candidates are advised to regularly check the website for updates. The University will intimate about the declaration of UKSEE 2019 result through the advertisement in the newspaper for the detailed results and further information regarding counseling dates etc., the candidates are advised to visit our website www.uktech.ac.in regularly.

Counselling will be made on available seats on the day of counseling. Candidate will be responsible for collecting information from website University will not own any responsibility of information other than website : www.uktech.ac.in.

13. EXAMINATION FEE AND REFUND OF FEE

- Rs. 1500/-(one thousand five hundred only) For General and OBC category candidates.
 - Rs. 750/-(Seven hundred fifty only) For SC & ST category candidates
- Fees shall neither be refunded nor carried forwarded if the application for UKSEE-2019 is rejected/ candidature is found to be ineligible of candidate is unable to appear in the examination. Hence candidates are advised to read the eligibility criteria carefully before applying.

Fee of Rs 1500/- (Gen/OBC)/-and Rs.750/- (SC/ST)/- as described above will be paid online through Net Banking, Credit or Debit card only.

The portal to fill application form for UKSEE 2019 is <http://uksee.uktech.ac.in/>

14. SCOPE OF EXAMINATION, EVALUATION & ELIGIBILITY FOR ADMISSION UKSEE-2019 COURSES

There will be one question paper in competitive entrance examination for all UKSEE-2019 courses. The competitive entrance examination for UKSEE-2019 courses shall be of multiple choice, single correct response questions. The language of question paper is English and Hindi only. All the questions will be objective type with multiple (A, B, C, D) choice of which only one will be the most appropriate answer or the correct choice. Each answer with correct choice shall be awarded one mark. Zero mark shall be given to no answer/wrong answer/ more than one choice is indicated against a question.

Answering method: Read the instruction of OMR Answer sheet carefully.

Negative Marking: There shall be no negative marking.

15. SYLLABUS

The syllabus for the test shall comprise of subject/knowledge areas as per the latest Regulations issued by respective boards with prior approval of Government of India. The weightage in each specialty is indicative and purely provisional. The University reserves its rights to alter/vary/amend the same.

16. Number of seats available for various courses and seat matrix (reservations) will be displayed at the time of counselling.

DISCLAIMER

Instances of provision of incorrect information detected at any stage of the selection process will automatically disqualify the candidate from the selection process and he/she will not be allowed to appear for UKSEE in future. If such instances go undetected during the current selection process but are detected in subsequent years, such disqualification will take place with retrospective effect and the Principal/Dean of the concerned college/institute shall have the authority to cancel admission of the candidate and to proceed legal action against him/her as all the information/documents furnished by the candidate will be scrutinized/verified by competent authorities.

The statement made in information brochure and all information contained herein are believed to be correct at the time of publication/uploading in the website. However, the Uttarakhand Government reserve the right to make any change without notice, changes and additions to the regulations, conditions governing the admission procedure, conduct of students, requirements for degree, fees and any other information, or statements contained in this information bulletin at any time. Uttarakhand Government will not be responsible for hardship or expense incurred by the candidates or any other person or persons for such changes, additions, omissions or errors, no matter how they are caused.

**Registrar
(UKSEE-2019)
Uttarakhand Technical University
Dehradun**

SYLLABI FOR UKSEE-2019

PAPER-1 (PHYSICS & CHEMISTRY)

PHYSICS

Measurement : Dimensional analysis and error estimation, dimension compatibility and significant figures.

Motion in one dimension : Average velocity, instantaneous velocity, one dimensional motion with constant accelerations, freely falling bodies.

Laws of Motion : Force and inertia, Newton's laws of motion and their significance.

Motion in two dimensions : Projectile motion, uniform circular motion, tangential and radial acceleration in curve-linear motion, relative motion and relative acceleration.

Work, Power and Energy : Work done by a constant and variable forces, kinetic and potential energy, power, conservative and non conservative forces, conservation of energy, gravitational energy, work energy theorem, potential energy stored in a spring.

Linear Momentum & Collisions : Linear momentum and impulse, conservation of linear momentum for two particle system, collisions, collision in one dimension, collision in two dimension, rocket propulsion.

Rotation of a rigid body about a fixed axis : Angular velocity and angular acceleration, rotational kinematics, rotational motion with constant angular acceleration relationship between angular and linear quantities, rotational energy, moment of inertia for a ring, rod, spherical shell, sphere and plane lamina, torque and angular acceleration, work and energy in rotational motion, rolling motion of a solid sphere and cylinder.

Gravitation : Gravitational field, Kepler's laws and motion of planets, planetary and satellite motion, geostationary satellite.

Oscillatory motion : Harmonic motion, oscillatory motion of mass attached to a spring, kinetic and potential energy, Time Period of a simple pendulum, comparing simple and harmonic motion with uniform circular motion, forced oscillations, damped oscillation and resonance.

Mechanics of solids and fluids : States of matter young's modulus, bulk modulus, shear modulus of rigidity, variations of pressure with depth, Buoyant forces and Archimedes Principle,

Pascal's law, Bernoulli's theorem and its application, surface energy, surface tension, angle of contact, capillary rise, coefficient of viscosity, viscous force, terminal velocity, Stoke's law, stream line motion, Reynold's numbers.

Heat and thermodynamics : First law of thermodynamics, specific heat of an ideal gas at constant volume and constant pressure, relation between them, thermodynamics process (reversible, irreversible, isothermal, adiabatic), second law of thermodynamics, concept of entropy and concept of absolute scale, efficiency of a Carnot engine, thermal conductivity, Newton's law of cooling, black body radiation, Wien's displacement law, Stefan's law.

Wave : Wave motion, phase, amplitude and velocity of wave, Newton's formula for longitudinal waves, propagation of sound waves in air, effect of temperature and pressure on velocity of sound, Laplace's correction, Principle of superposition, formation of standing waves, standing waves in strings and pipes, beats, Doppler's effect.

Electrostatics : Coulomb's law, electric field and potential due to point charge, dipole and its field along the axis and perpendicular to axis, electric flux, Gauss's theorem and its applications to find the field due to infinite sheet of charge, and inside the hollow conducting sphere, capacitance, parallel plate capacitor with air and dielectric medium between the Plates, series and parallel combination of capacitors, energy of a capacitor, displacement currents.

Current Electricity : Concept of free and bound electrons, drift velocity and mobility, electric current, Ohm's law, resistivity, conductivity, temperature dependency of resistance, resistance in series and parallel combination, Kirchoff's law and their application to network of resistances, principle of potentiometer, effect of temperature on resistance and its application.

Magnetic Effect of Current : Magnetic field due to current, Bio-Savart's law, magnetic field due to solenoid, motion of charge in a magnetic field, force on a current carrying conductors and torque on current loop in a magnetic field, magnetic flux, forces between two parallel current carrying conductors, moving coil galvanometer and its conversion into ammeter and voltmeter.

Magnetism in Matter : The magnetization of substance due to orbital and spin motions of electrons, magnetic moment of atoms, diamagnetism, paramagnetism, ferromagnetism, earth's magnetic field and its components and their measurement.

Electromagnetic Induction : Induced e.m.f., Faraday's laws, Lenz's law, electromagnetic induction, self and mutual induction, B-H curve, hysteresis loss and its importance, eddy currents.

Ray Optics and optical instruments : Sources of light, luminous intensity, luminous flux,

illuminance, photometry, wave nature of light, Huygen's theory for propagation of light and rectilinear propagation of light, reflection of light, total internal reflection, reflection and refraction at spherical surfaces, focal length of a combination of lenses, spherical and chromatic aberration and their removal, reflection and dispersion of light due to a prism, simple and compound microscope, reflecting and refracting telescope, magnifying power and resolving power.

Wave Optics : Coherent and incoherent sources of light, interference, young's double slit experiment diffraction due to a single slit, linearly polarized light, Polaroid.

Modern Physics : Photo-electric equation, matter waves, quantization, Planck's hypothesis, Bohr's model of hydrogen atom and its spectra, ionisation potential, Rydberg constant, solar spectrum and Fraunhofer lines, fluorescence and phosphorescence, X-Rays and their productions, characteristics and continuous spectra.

Nuclear Instability, radioactive decay laws, Emission of α , β , γ rays, Mass - defect, Mass Energy equivalence, Nuclear Fission Nuclear Reactors, Nuclear Fusion.

Classification of conductors, Insulators and semiconductors on the basis of energy bands in solids, PN junction, PN Diode, junction Transistors, Transistors as an amplifier and Oscillators.

Principles of Logic Gates (AND, OR and NOT) Analog Vs Digital communication, Difference between Radio and television, Signal propagation, Principle of LASER and MASER, Population Inversion, Spontaneous and stimulated Emission.

CHEMISTRY

Atomic Structure : Bohr's concept. Quantum numbers, Electronic configuration, molecular orbital theory for homonuclear molecules, Pauli's exclusion principle.

Chemical Bonding : Electrovalency, co-valency, hybridization involving s,p and d orbitals hydrogen bonding.

Redox Reactions : Oxidation number, oxidising and reducing agents, balancing of equations.

Chemical Equilibrium and Kinetics : Equilibrium constant (for gaseous system only) Le Chatelier's principle, ionic equilibrium, Ostwald's dilution law, hydrolysis, pH and buffer solution, solubility product, common-ion effect, rate constant and first order reaction.

Acid-Base Concepts : Bronsted Lowry & Lewis.

Electrochemistry : Electrode potential and electro-chemical series.

Catalysis : Types and applications.

Colloids : Types and preparation, Brownian movement, Tyndall effect, coagulation and peptization.

Colligative Properties of Solution : Lowering of vapour pressure, Osmotic pressure, depression of freezing point elevation of boiling point, determination of molecular weight.

Periodic Table : Classification of elements on the basis of electronic configuration, properties of sp and d block elements, ionization potential, electronegativity & electron affinity.

Preparation and Properties of the following : Hydrogen peroxide, copper sulphate, silver nitrate, plaster of paris, borax, Mohr's salt, alums, white and red lead, microcosmic salt and bleaching powder, sodium thiosulphate.

Thermochemistry : Exothermic & endothermic reactions Heat of reaction, Heat of combustion & formation, neutralisation, Hess's law.

General Organic Chemistry : Shape of organic compounds, Inductive effect, mesomeric effect, electrophiles & nucleophiles, Reaction intermediates : carboniumion, carbanions & free radical, Types of organic reaction, Cannizzaro Friedel Craft, Perkin, Aldol condensation.

Isomerism : Structural, Geometrical & Optical

IUPAC : Nomenclature of simple organic compounds.

Polymers : Addition & condensation polymers

Carbohydrates : Monosaccharides

Preparation and Properties of the Followings : Hydrocarbons, monohydric alcohols, aldehydes, ketones, monocarboxylic acids, primary amines, benzene, nitrobenzene, aniline, phenol, benzaldehyde, benzoic acid, Grignard Reagent.

Solid State : Structure of simple ionic compounds, Crystal imperfections (point defects only), Born-Haber cycle.

Petroleum : Important industrial fractions, cracking, octane number, anti knocking compounds.

PAPER - 2 (MATHEMATICS)

Algebra : Sets relations & functions, De-Morgan's Law, Mapping Inverse relations, Equivalence relations, Peano's axioms, Definition of rationals and integrals through equivalence relation, Indices and surds, solutions of simultaneous and quadratic equations, A.P., G.P. and H.P., Special sums i.e. S_n^2 and S_n^3 (nS_n), Partial fraction, Binomial theorem for any index, exponential series, Logarithm and Logarithmic series. Determinants and their use in solving simultaneous linear equations, Matrices, Algebra of Matrices, Inverse of a Matrix, Use of Matrix for solving equations.

Probability : Definition, Dependent and independent events, Numerical problem on addition and multiplication, theorem of probability.

Trigonometry : Identities, Trigonometric equations, properties of triangles, solution of triangles, heights and distances, Inverse function, Complex numbers and their properties, Cube roots of unity, De- Moivre's theorem.

Co-ordinate Geometry : Pair of straight lines, Circles, General equation of second degree, parabola, ellipse and hyperbola, tracing of conics.

Calculus : Limits & continuity of functions, Differentiation of function of function, tangents & normal, Simple examples of Maxima, Indeterminate forms, Integration of function by parts, by substitution and by partial fraction, definite integral, application to volumes and surfaces of frustums of sphere, cone and cylinder. Differential equations of first order and of first degree.

Vectors : Algebra of vectors, scalar and vector products of two and three vectors and their applications.

Dynamics: Velocity, composition of velocity, relative velocity, acceleration, composition of accelerations, Motion under gravity, Projectiles, Laws of motion, Principles of conservation of momentum and energy, direct impact of smooth bodies.

Statics : Composition of coplanar, concurrent and parallel forces moments and couples resultant of set of coplanar forces and condition of equilibrium, determination of centroid in simple cases, Problems involving friction.

PAPER - 3 (BIOLOGY)
ZOOLOGY

Origin of Life: Oparin's theory, Miller's Experiment, Viruses - structure, properties, distribution, classification and pathogenesis (Eg. AIDS, CANCER), Viroids & Prions, Biotic balance.

Organic Evolution : Relationship among organisms and Evidences of organic Evolution - Principles of Evolution - Lamarkism, Darwinism and Speciation.

Mechanism of Organic Evolution : Variations - Definition, causes and types, Mutations (Principles of Hugo de'veries), Role of mutations in speciation. Evolution through ages and human evolution.

Human Genetics and Eugenics : Human hereditary traits, study of Twins, A.B.O. blood groups and their inheritance, Rh-factor, Sex determination. Chromosomal aberrations, Important human syndromes, Sex linked characters and their inheritance, Applied Genetics - eugenics, euthenics, euphenics & I.Q. Test.

Applied Biology : Wild life of India - Endangered species : Biosphere Reserves, National Parks and sanctuaries, Project Tiger, Conservation of wild life, Bio-energy, Poultry, Fisheries (edible fishes), Human Population, Population explosion, problems & control. Test-Tube babies, & Amniocentesis, Application of Biotechnology in human welfare. Human Aging.

Mammalian Anatomy (Eg. Rabbit) : Reproductive system (excluding embryonic development) Osteology, structure and organization of different systems.

Animal Physiology :

- (A) *Animal Nutrition* : Food, Balanced diet, Nutritional imbalances and deficiency diseases, Digestion, Absorption, Assimilation of food, (comparison between human and Rabbit).
- (B) *Animal Excretion and Osmoregulation* : Chemical nature of excretory products in various animals, Physiology of excretion, Function of liver and Kidney (Homeostatic regulatory functions of kidneys), Formation of urine, Osmoregulation by kidneys.
- (C) *Respiratory System* : Exchange and transport of gases (O₂ and Co₂) factors affecting O₂ and Co₂ transport, Cellular respiration, different lung volumes, breathing and sound production.

- (D) *Nervous System* : Central, autonomic and peripheral nervous system, Receptors, Effectors, Reflex-action. Nature and conduction of Nerve-impulses, Synapse, Sense organs - Structure & working of Eye & Ear, Biochemistry of vision and taste buds
- (E) *Endocrine System* : Different endocrine glands and Hormones - definition, types, characteristics and their functions, (in relation to human beings), Hormonal disorders and pheromones.
- (F) *Circulatory System* : Circulation of body fluids - Blood and lymph, Open and closed vascular systems, Structure and working physiology of Heart, Comparison between arteries and veins, Lymphatic system.
- (G) *Animal Diversity* : Classification of Animal kingdom (Based on Storar & Eusinger), Characteristic feature of different phyla and classes with examples.

Detailed studies of following :

- (a) Protozoa
- (i) Amoeba- Habit & Habitat, structure, locomotion, reproduction, Osmoregulation, Parasitic amoebae-Entamoeba histolytica and Entamoeba gengivalis, structure, diseases caused by them and their control measures.
- (ii) Plasmodium vivax-life-cycle, malaria therapy and control.
- (iii) Protozoan and diseases
- (b) Porifera: A simple sponge (Leucosolenia) : Detailed study of structure & physiology, Sponge industry.
- (c) Coelenterata : Hydra - Habit and Habitat, morphology, tissue differentiation in relation to physiological division of labour and regeneration.
- (d) Aschelminthes : Ascaris - morphology, life-cycle, therapy and control.
- (e) Annelida : Pheretima posthuma - Bionomics and economic importance.
- (f) Arthropoda : (Periplanata) : Structure - external and internal. Comparison between Periplanata and Blatta.
- (i) Housefly & Mosquito : structure and life - cycle.

- (ii) Economic importance of insects & their control.

BOTANY

Plant Cell : Structure & functions electron microscopic structure mitochondria, Plastids centrosomes. Lysosomes, microsomes, endoplasmic reticulum, Nuclear, Golgi bodies, D.N.A. & R.N.A. cytoplasm, membranes and cell wall.

Protoplasm : Structure, components physical and chemical properties.

Cell division (formation) - free cell formation, Amitosis & Meiosis, Duplication of D.N.A.

Ecology : Ecological factors (atmospheric, edaphic, climatic, geological & biotic factors).

Ecosystem : Structure, components of ecosystem eg. Water soluble minerals and gases, producers consumers, decomposers, Pond and forest ecosystem.

Atmospheric pollution-causes and control, Types of pollution - Detergents, chemicals automobile exhaust, Radioactive matter, Smog, sound, Pesticides.

Genetics : Mendelism, Mendel's experiment and law of inheritance.

Modern Classification of plant kingdom - (according to Ostwald & Tippo) (outline).

Seeds in angiospermic plants : description of development of angiospermic plants (life history of angiospermic plants).

Fruits : Dispersal of fruits and seeds

Cell differentiation Plant Tissue : difference between dicot and Monocot stem. Secondary growth of stem and root. Anatomy of hydrophytes, Xerophytes & Mesophytes.

Important phyla :

Algae : Habitat, general characters & uses, description of Ulothrix & Spirogyra.

Bacteria : structure - types of nutrition, reproduction and economic importance.

Fungi : structure description of Rhizopus and yeast and their economic importance,

Fermentation.

Bryophyta : structure and economic importance, description of funaria (Moss)

Pteridophyta : general structures of pteridophytes description of fern (Droypteris)

General study of gymnosperms and life history of cycas.

Classification of angiospermn,

Description of families - identification and economic importance

Cruciferae, Malvaceae, Leguminosae, compositeae, cucurbitaceae.

Soil :

Absorption of water through root hairs osmosis, Translocation and Root pressure.

Nitrogen cycle.

Special modes of nutrition in plants (Autotrophic, heterotrophic, Parasites, saprophytes, Symbionts insectivorous and their ecological relation.

Photosynthesis : Chloroplast, light, chlorophyll and Carbon dioxide, Mechanism of photosynthesis formation of A.T.P. and their functions and importance of photosynthesis.

Transpiration : factors and importance, Mechanism of opening and closing of stomata.

Respiraton : aerobic, anaerobic respiration, mechanism of respiration (Glycolysis, Kreb's cycle, E.T.S.)

Growth & movement : definition of growth, Region of growth & their measurements, types of movements in plants, Growth hormone.

PAPER - 4 (APTITUDE TEST FOR GENERAL AWARENESS (BHMCT)

(A) Reasoning & Logical Deduction : Geometrical designs & Identification Selection of related

letters / words / numbers / figures Identification of odd thing / item out from a group

Completion of numerical series based on the pattern / logic

Fill in the blanks of the series based on the numerical pattern and logic of the series.

Syllogisms (logic based questions), Identification of logic & selection of correct answers based on the logic.

(B) Numerical Ability & Scientific Aptitude :

Arithmetical questions up to 10th standard Calculation of fraction, percentages, square roots etc.
Profit & Loss and Interest calculations

Data / Table analysis, Graph & Bar Diagram and Pie Chart analysis Questions related to common use of science (Physics & Chemistry) Health & Nutrition

(C) General Knowledge :

Current affairs / Events (Political, Social, Cultural & Economic) Historical events

Geography including Tourist Places / Spots Current affairs relating to Business & Trade Countries & Currencies

Latest Who's Who?

Sports & Games

(D) English Language :

Word Meanings Antonyms & Synonyms Meaning of Phrases & Idioms Fill in the blanks

Complete / Improvement of the sentences with correct use of Pronouns, Verbs, Adverbs

& Adjectives

Reading comprehension's followed by questions

PAPER - 5 (APTITUDE TEST FOR MCA)

1. Mathematics

Modern Algebra : Idempotent law, identities, complementary laws, Demorgan's theorem, mapping, inverse relation, equivalence relation, Pano's Axiom, definition of rational numbers and integers through equivalence relation.

Algebra : Surds, solution of simultaneous and quadratic equations, arithmetic, geometric and harmonic progression, Binomial theorem for any index, logarithms, exponential and logarithmic series, determinants.

Probability : Definition, dependent and independent events, numerical problems on addition and multiplication of probability, theorems of probability.

Trigonometry : Simple identities, trigonometric equations, properties of triangles, use of mathematical tables, solution of triangles, height and distance, inverse functions, DeMoivre's theorem.

Co-Ordinate Geometry : Co-Ordinate geometry of the straight lines, pair of straight lines, circle, parabola, ellipse and hyperbola and their properties.

Calculus : Differentiation of function of functions, tangents and normal, simple example of maxima of minima, limits of functions, integration of function (by parts, by substitution and by partial fraction), definite integral (application to volumes and surfaces of frustums of sphere, cone and cylinder).

Vectors : Position vector, addition and subtraction of vectors, scalar and vector products and their applications.

Dynamics : Velocity, composition of velocity, relative velocity, acceleration, composition of acceleration, motion under gravity, projectiles, laws of motions, principles of conservation of momentum and energy, direct impact of smooth bodies, pulleys.

Statics : Composition of co-planar, concurrent and parallel forces, moments and couples, resultant of set of coplanar forces and conditions of equilibrium, determination of Centroides in simple case, problems involving friction.

(ii) **Statistics** : Theory of probability, Mean, Median, Mode, Dispersion and Standard Deviation.

(iii) **Logical Ability** : Questions to test analytical and reasoning capability of candidates.

PAPER- 6 (APTITUDE TEST FOR DIPLOMA HOLDERS IN ENGINEERING)

Engineering Mechanics, Engineering Graphics, Basic Electrical Engg., Basic Electronics Engg.,

Elements of computer science, Elementary Biology, Basic Workshop Practice and Physics/Chemistry/ Maths of Diploma standard.

PAPER-7 (APTITUDE TEST FOR DIPLOMA HOLDERS IN PHARMACY)

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|--|--|
| 1. Pharmaceutics-I | 7. Pharmaceutics-II |
| 2. Pharmaceutical Chemistry-I | 8. Pharmaceutical Chemistry-II |
| 3. Pharmacognosy | 9. Pharmacology and Toxicology |
| 4. Biochemistry and Clinical Pathology | 10. Pharmaceutical Jurisprudence |
| 5. Human Anatomy and Physiology | 11. Drug Store and Business management |
| 7. Health Education & Community Pharmacy | 12. Hospital and Clinical Pharmacy |

PAPER- 8 (APTITUDE TEST FOR B.Sc. GRADUATE)

Linear Algebra : Matrix Algebra, Systems of linear equations, Eigen values and eigen vectors.

Calculus : Mean value theorems, Theorems of integral calculus, Evaluation of definite and improper integrals, Partial Derivations, Maxima and minima, Multiple integrals, Fourier series. Vector identities, Directional derivatives, Line, Surface and Volume integrals, Stokes, Gauss and Green's theorems.

Differential equations : First order equation (linear and nonlinear), Higher order linear differential equations with constant coefficients, Method of variation of parameters, Cauchy's and Euler's equations, Initial and boundary value problems, Linear partial differential equations with constant coefficients of 2nd order and their classifications and variable separable method.

Complex variables : Analytic functions, Cauchy's integral theorem and integral formula, Taylor's and Laurent's series, Residue theorem, solution integrals.

Probability and Statistics : Sampling theorems, Conditional probability, Mean, Median, mode and standard deviation, Random variables. Discrete and continuous distributions, Poisson, Normal and Binomial distribution, Correlation and regression analysis.

Fourier Series : Periodic functions, Trigonometric series, Fourier series of period $2p$, Eulers formulae, Functions having arbitrary period, Change of interval, Even and odd functions, Half range sine and cosine series.

Transform Theory : Laplace transform, Laplace transform of derivatives and integrals, Inverse Laplace transform, Laplace transform of periodic functions, Convolution theorem, Application to solve simple linear and simultaneous differential equations.

Fourier integral, Fourier complex transform, Fourier sine and cosine transforms and applications to simple heat transfer equations.

Z-transform and its application to solve difference equations.

Paper – 9 MCA Lateral Entry (MCA Direct Second Year)

There shall be one paper of 90 minutes duration carrying 75 marks containing 75 multiple choice questions on mathematical Aptitude, Computer Science (BCA/B.Sc (CS)/B.Sc. (IT) Level and Logical Reasoning.

Mathematical Aptitude Test Areas: Logarithms, Surds, solution of simultaneous and quadratic equations, Inequalities, Matrices and Determinants, Progressions, Binomial Expansion,

Permutation and Combination, Function and Relation, 2-D Coordinate Geometry, Basics of Calculus, Basic Concepts of Probability.

Algebraic Structure : Group, Ring and Fields. Boolean Algebra and Propositional Logic.

Computer Science : Representation of information & Basic Building Blocks of Computer System , Basic Operating System Concept, Algorithm development, Programming Language, Procedural and Object Oriented Programming, Basics of Data Structure with Array, Stack,

Queue, Tree, Fundamental of C++ and java Programming Languages.

Relational Data Model, SQL, Database Design & Normalization.

Fundamentals of Computer Network, Network Topology, TCP/IP and related protocols

Accounting : Principal of accounting, Basic financial concepts, capital budgeting, casting, ratio analysis.

Analytical and Logical Reasoning : Questions will be mainly for checking logical conclusion, graphical/data interpretation, etc.

Paper 10 - Aptitude Test for MBA (As per CAT Examination)

English or Verbal Ability: Reading comprehension, verbal reasoning, syllogisms, analogies, antonyms and synonyms, fill in the blanks, sentence correction, idioms, etc.

Maths or Quant Ability: Number systems, geometry, trigonometry, probability, permutation combination, algebra, mensuration, time and work, averages, percentages, profit and loss, quadratic and linear equations, etc.

Data Interpretation: Interpretation and analysis of data based on text, tables, graphs (line, area), charts (column, bar, pie), venn diagram, etc.

Logical Reasoning: Clocks, calendars, binary logic, seating arrangement, blood relations, logical sequence, assumption, premise, conclusion, linear and matrix arrangement, etc.

Paper 11 - Aptitude Test for M Pharm (As per GPAT Examination)

The important topics are as mentioned below -

- Physical Chemistry,
- Organic Chemistry,
- Pharmacology,
- Pharmacognosy,
- Biotechnology,
- Physical Pharmacy,
- Microbiology,
- Pharmaceutical Chemistry,
- Pharmaceutics,
- Pharmaceutical Analysis,
- Biochemistry,
- Anatomy, Physiology and Health Education,
- Pharmaceutical Engineering,
- Clinical Pharmacy and Therapeutics,
- Pharmaceutical Management,
- Pathophysiology,
- Biopharmaceutics and Pharmacokinetics,
- Pharmaceutical Jurisprudence,
- Dispensing & Hospital Pharmacy,

Paper 12 - Test for M tech - Aptitude, General Knowledge, Knowledge of Basic Mathematics & Computers and Common Engineering Subjects from B Tech)

English or Verbal Ability: Reading comprehension, verbal reasoning, syllogisms, analogies, antonyms and synonyms, fill in the blanks, sentence correction, idioms, etc.

Maths or Quant Ability: Number systems, geometry, trigonometry, probability, permutation combination, algebra, mensuration, time and work, averages, percentages, profit and loss, quadratic and linear equations, etc.

Data Interpretation: Interpretation and analysis of data based on text, tables, graphs (line, area), charts (column, bar, pie), venn diagram, etc.

Logical Reasoning: Clocks, calendars, binary logic, seating arrangement, blood relations, logical sequence, assumption, premise, conclusion, linear and matrix arrangement, etc.

Fundamental of Computer Science

Basic Electrical Engineering

Basic Electronics Engineering

Basic Mechanical Engineering

Engineering Drawing

LIST OF B.TECH / M.TECH INSTITUTIONS AFFILIATED
TO UTTARAKHAND TECHNICAL UNIVERSITY

- 1- Amrapali Institute of Technology & Sciences, Shiksha Nagar, Lamachaur, Haldwani (Uttarakhand) – 263139

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	UG	Computer Science&Engg.	Full
Engg. & Tech.	First	UG	Electrical & Electronics Engg.	Full
Engg. & Tech.	First	UG	Electronics & Communication	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

- 2- Beehive College of Engg. & Technology, Central Hope Town, Selaqui, D.Dun-248001

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science &Engg.	Full
Engg. & Tech.	First	UG	Electrical & Electronics Engg.	Full
Engg. & Tech.	First	UG	Information Technology	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

- 3- Bishambhar Sahay Institute of Technology, 06 Km. Stone, Roorkee, Distt- Hardwar-247 667 (Uttarakhand).

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Electrical Engineering	Full
Engg. & Tech.	First	UG	Electronics & Communication Engg.	Full
Engg. & Tech.	First	UG	Information Technology	Full
Engg. & Tech.	First	UG	Mechanical & Automation Engg.	Full

- 4- Birla Institute of Applied Sciences, Industrial Area, Bhimtal, Distt- Nainital (Uttarakhand)

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	UG	Computer Science &Engg.	Full
Engg. & Tech.	First	UG	Electronics & Comm. Engg.	Full

- 5- Balwant Singh Mukhiya (BSM) College of Engineering, Roorkee

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science &Engg.	Full
Engg. & Tech.	First	UG	Electrical Engg.	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

- 6- College of Engineering Roorkee, 07Km. Roorkee-Hardwar Road, Vardhmanpuram, Vill- Firozpur, Roorkee (Uttarakhand) Pin-247667

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	PG	Computer Science &Engg.	Full
Engg. & Tech.	First	PG	Mechanical Engg.	Full
Engg. & Tech.	First	UG	Applied Electronics & Instrumentation Engg.	Full
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science &Engg.	Full
Engg. & Tech.	First	UG	Electrical & Electronics Engg.	Full
Engg. & Tech.	First	UG	Electronics & Telecommunication	Full
Engg. & Tech.	First	UG	Information Technology	Full

Engg. & Tech.	First	UG	Mechanical Engg.	Full
Engg. & Tech.	First	UG	Plastic and Polymer Engg.	Full

- 7- Doon Institute of Engineering & Technology, Vill- Shyampur, Rishikesh, Distt- Dehradun-249204 (Uttarakhand)

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	PG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Electrical & Electronics Engg.	Full
Engg. & Tech.	First	UG	Electronics & Communication	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

- 8- Dev Bhoomi Institute of Technology, Navgaon, Manduwala, Dehradun

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	PG	Civil Engg.	Full
Engg. & Tech.	First	PG	Computer Science & Engg.	Full
Engg. & Tech.	First	PG	Electronics & Comm. Engg.	Full
Engg. & Tech.	First	PG	Thermal Engg.	Full
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Electrical and Electronics	Full
Engg. & Tech.	First	UG	Electronics & Comm. Engg.	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

- 9- Dev Bhoomi School of Architecture, Manduwala, Dehradun

Program	Shift	Level	Course	FT/PT
Bachelor of Architecture	First	UG	Degree Course	Full (05 Year)

- 10- G.R.D. Institute of Management & Technology, 214, Rajpur Road, Dehradun-248009

Program	Shift	Level	Course	Full/ Part Time
Engg & Tech	1 st	PG	Computer Science & Engg.	Full
Engg & Tech	1 st	PG	Digital Communication	Full
Engg & Tech	1 st	PG	Electrical Engg.	Full
Engg & Tech	1 st	PG	Manufacturing Science and Engg.	Full
Engg & Tech	1 st	PG	Wireless and Mobile Communication	Full
Engg & Tech	1 st	UG	Civil Engg.	Full

Engg & Tech	1 st	UG	Computer Science & Engg.	Full
Engg & Tech	1 st	UG	Electrical & Electronics Engg.	Full
Engg & Tech	1 st	UG	Electronics & Comm. Engg.	Full
Engg & Tech	1 st	UG	Mechanical Engg.	Full

11- Maya Institute of Technology & Management, Chakrata Road, Dehradun

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Electrical & Electronics Engg.	Full
Engg. & Tech.	First	UG	Electronics & Communication Engg.	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

12- Roorkee College of Engineering, Plot No. 312, Vill. Bajuheri, Roorkee, Distt- Hardwar.

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	PG	Computer Science	Full
Engg. & Tech.	First	PG	Computer Science & Engg.	Full
Engg. & Tech.	First	PG	Electronics and Communication Engg.	Full
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Electrical & Electronics Engg.	Full
Engg. & Tech.	First	UG	Electronics & Communication Engg.	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full
Engg. & Tech.	First	UG	Petroleum Engg.	Full

13- Roorkee Institute of Technology, 08 KM. Dehradun Road, Puhana, Roorkee, Distt- Hardwar (Uttarakhand)

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	PG	Electrical Engg.	Full
Engg. & Tech.	First	PG	Production Engg.	Full
Engg. & Tech.	First	PG	Structural Engg and Construction	Full
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Electrical Engg.	Full
Engg. & Tech.	First	UG	Electronics & Communication Engg.	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

14- Ramanand Institute of Pharmacy & Management, Jwalapur, Haridwar

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science and Information Technology	Full
Engg. & Tech.	First	UG	Electrical and Electronics Engg.	Full
Engg. & Tech.	First	UG	Electronics & communication Engg. (Industry Integrated)	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

15- Surajmal Laxmi Devi Sawarhia Educational Trust, Siroli, Kichcha, Distt- U.S. Nagar, (Uttarakhand) Pin- 263148

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	UG	Automobile Engg.	Full
Engg. & Tech.	First	UG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Electrical & Electronics Engg.	Full
Engg. & Tech.	First	UG	Electronics & Communication	Full
Engg. & Tech.	First	UG	Information Technology	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

16- Shivalik College of Engg., Sihiniwala, Shimla Bypass Road, Post-Sherpur, Dehradun-248197

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Electrical and Electronics Engg.	Full
Engg. & Tech.	First	UG	Electronics & Comm. Engg.	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

17- Tula's Institute, Dhoolkot, P.). Selaqui, Teh. Vikasnagar, Chakrata Road, Dehradun-248197 (Uttarakhand)

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	PG	Computer Science & Engg.	Full
Engg. & Tech.	First	PG	Thermal Engg.	Full
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Electrical & Electronics Engg.	Full
Engg. & Tech.	First	UG	Electronics & Communication	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

- 18- Phonics Group of Institutions, 12KM. Mile Stone, Bhagwanpur-Hardwar Highwar, Vil- ImliKhera, Dharampur, Roorkee, Distt- Haridwar (Uttarakhand)-247667

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Electrical and Electronics Engg.	Full
Engg. & Tech.	First	UG	Electronics and Communication Engg.	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

- 19- Institute of Technology Roorkee (Coed College), 09 Mile Stone, Roorkee-Dehradun Highway, Vill- Kishanpur, Roorkee-247667, Distt- Hardwar (Uttarakhand)

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	PG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Electrical & Electronics Engg.	Full
Engg. & Tech.	First	UG	Electronics & Communication	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

- 20- J.B. Institute of Technology, NH-72, Vill- Shankarpur, Chakrata Road, D.Dunn-248197

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	PG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Civil Engg.	Full
Engg. & Tech.	First	UG	Computer Science & Engg.	Full
Engg. & Tech.	First	UG	Electrical Engg.	Full
Engg. & Tech.	First	UG	Electronics & Comm. Engg.	Full
Engg. & Tech.	First	UG	Mechanical Engg.	Full

- 21- Faculty of Technology, UTU, Dehradun

Program	Shift	Level	Course	FT/PT
Engg. & Tech.	First	PG	Computer Science & Engg.	Full
Engg. & Tech.	First	PG	Power System Engg.	Full
Engg. & Tech.	First	PG	Thermal Engg.	Full
Engg. & Tech.	First	PG	VLSI Design	Full
Engg. & Tech.	First	PG	Structural Engg.	Full

- 22- B.T. Kumaon Institute of Technology, Dwarahat, Almora (**Autonomous College**)
 23- G.B. Pant Engineering College, Ghurdauri, Pauri Garhwal (**Autonomous College**)
 24- Nanhi Pari Seemant Institute of Technology, Pithoragarh (**Constituent College of UTU**)
 25- THDC Institute of Hydro Power Engineering & Technology, Tehri Garhwal (**Constituent College of UTU**)
 26- Women Institute of Technology, Dehradun (**Constituent College of UTU**)
 27- IT, Gopeshwar (**Constituent College of UTU**)
 28- Dr. A.P.J. Abdul Kalam Institute of Technology, Tanakpur (champawat), (**Constituent College of UTU**)

**LIST OF B.PHARMA AND M.PHARMA INSTITUTE AFFILIATED TO
UTTARAKHAND TECHNICAL UNIVERSITY-2018-19**

S.No.	Institute Name	Courses
01	GRD (PG) IMT, 214, Rajpur Road, Dehradun	B.Pharma
		Pharmaceutics
		Pharmacognosy
		Pharmacology & Toxicology
02	Roorkee College of Pharmacy, 09 Mile Stone, Roorkee-Dehradun Highway, Vill- Kishanpur, Roorkee.	Quality Assurance
		B.Pharma
		Pharmaceutics
		Pharmacology
03	Devbhoomi Institute of Pharmacy & Research, Manduwala, Dehradun	B.Pharma
		M.Pharma (Pharmacology)
		M.Pharma (Pharmaceutics)
04	Devsthali Vidhyapeeth College of Pharmacy, Kachchi Khamriya, Rudrapur, Distt- Udham Singh Nagar	B.Pharma
		M.Pharma (Pharmaceutics)
05	Ramanand Institute of Pharmacy & Management, NH-58, Haridwar Roorkee Road, Jwalapur, Haridwar	B.Pharma
		M.Pharma (Pharmaceutics)
		M.Pharma (Pharmacology)
06	Shree Dev Bhoomi Institute of Education Science & Technology, Vill-Manzhon, P.O. Pondha, Premnagar, Dehradun	B. Pharma
		M.Pharma (Quality Assurance)
		M.Pharma (Pharmaceutics)
07	Himalayan Institute of Pharmacy & Research,	B. Pharma

	Atak Farm, Post- Rajawala, Via- Premnagar, Dehradun	M.Pharma (Pharmaceutical Chem)
		M.Pharma (Pharmacology)
		M.Pharma (Pharmaceutics)
08	Gyani Inder Singh Institute of Professional Studies, Mussoorie Diversion Road, Near Malsi Deer Part, Post-Sinola, Dehradun	B. Pharma
		M.Pharma (Pharmaceutics)
		M.Pharma (Quality Assurance)
09	Smt. Tarawati Institute of Bio-Medical & Applied Sciences, 06KM. Mile Stone, Roorkee-Dehradun Highway, Saliyar, Roorkee	B. Pharma
		M.Pharma (Pharmaceutics)
10	Siddhartha Institute of Pharmacy, Vill- Danda Khudanewala, Do Bachchi, Sahastradhara Road, Dehradun	B. Pharma
		M.Pharma (Pharmaceutical)
		M.Pharma (Pharmacology)
11	Global Institute of Pharmaceutical Education & Research, Jaspur Road, Teh. Kashipur, Distt-Udham Singh Nagar	B. Pharma
		M.Pharma (Pharmaceutical Chem)
		M.Pharma (Pharmaceutics)
12	Om Bio-Sciences & Pharma College, 01Km. From Patanjali Yoge Peeth, Near Crystal World, Vill-Panchayanpur, P.O. Daulatpur, Roorkee	B. Pharma
13	Faculty of Pharmacy, UTU, Dehradun	M.Pharma (Pharmacology)
		M.Pharma (Pharmaceutics)
14	Kukreja Institute of Pharmaceutical Sciences, Next to Doon Global School, Jhajra Suddhowala, Dehradun (2018-19 New)	B. Pharma

**LIST OF MBA INSTITUTIONS AFFILIATED TO UTTARAKHAND TECHNICAL
UNIVERSITY-2018-19**

S.N o.	Institute Name	Courses
01	SurajmalLaxmi Devi Sawartha Educational Trust, Sirol, Kichcha, Distt- U.S. Nagar, (Uttarakhand)	MBA
02	Surajmal Agarwal Girls College of Management, Sirol, Kichcha, Distt- U.S. Nagar, (Uttarakhand)	MBA
03	Amrapali Institute of Management & Computer Applications, Shiksha Nagar, Lamachaur, Haldwani	MBA
04	Bishambhar Sahay Management Institute, 06 Km. Stone, Roorkee, Distt- Hardwar-247 667 (Uttarakhand)	MBA
05	G.R.D. Institute of Management & Technology, 214, Rajpur Road, Dehradun	MBA
06	Beehive College of Management & Technology, Central Hope Town, Selaqui, D.Dun	MBA
07	Roorkee College of Managemnt & Computer Applications, 09 Mile Stone, Roorkee-Dehradun Highway, Vill- Kishanpur, Roorkee	MBA
18	Tula's Institute, Dhoolkot, Selaqui, Teh. Vikasnagar, Chakrata Road, Dehradun	MBA
09	Roorkee Institute of Technology, 08 KM. Dehradun Road, Puhana, Roorkee, Distt- Hardwar.	MBA
10	College of Engineering Roorkee, 07Km. Roorkee-Hardwar Road, Vardhmanpuram, Vill- Firozpur, Roorkee	MBA
11	COER School of Management, Roorkee	MBA
12	Mahadevi Institute of Technology, 10 New Road, Dehradun-248001 (Uttarakhand).	MBA
13	Devbhoomi Institute of Technology, Manduwala, Dehradun.	MBA
14	Nimbus Academy of Management, Hadwali, Jhajhara, Chakrata Road, Dehradun	MBA (Full Time)
15	Sri Ram Institute of Management & Technology (PG College), 07 KM. Stone, Ramnagar Road, Kashipur (Uttarakhand)	MBA
16	Doon Business School, 122-Pharma City, Selaqui, Dehradun-248001 (Uttarakhand)	MBA

		MBA (Integrated)
17	B.R.D. College of Management & Sciences, 07 KM. Mile Stone, Roorkee-Dehradun Highway, Roorkee (Uttarakhand)	MBA
18	Swami Darshanand Institute of Management & Technology, GurukulMahavidhalaya, Jwalapur, Distt- Hardwar	MBA
19	Institute of Co-Operative Management, Old Mussoorie Road, Rajpur, Deradun	MBA
20	Saraswati Institute of Management & Technology, NH-74, 12KM. Rudrapur-Gadarpur Road, (Uttarakhand)	MBA
21	Satyendra Chandra Gurialnstitute of Management & Technology, Bazpur Road, Kashipur, Distt- Udham Singh Nagar	MBA (FT)
22	Institute of Management Studies, Roorkee, 10KM. Stone, Roorkee-Dehradun Highway, Roorkee	MBA (FT)
23	Omkanananda Institute of Management & Technology, OmkananandaSaraswati Marg, Shivnanda Nagar, Muni Ki Reti, Rishikesh	MBA
24	Ramanand Institute of Pharmacy & Management, NH-58, Haridwar Roorkee Road, Jwalapur, Haridwar	MBA Master of Business Administration (Integaed)
25	BFIT Technical Campus, Manduwala, Sudhowala, Chakrata Road, Dehradun	MBA
26	Shree Dev Bhoomi Institute of Education Science & Technology, Vill-Manzhon, P.O. Pondha, Premnagar, Dehradun	MBA
27	Om Bio-Sciences & Management College, 01Km. From PatanjaliYogePeeth, Near Crystal World, Vill-Panchayanpur, P.O. Daulatpur, Roorkee	MBA
28	Phonics Group of Institutions, 12KM. Mile Stone, Bhagwanpur-Hardwar Highwar, Vil-ImliKhera, Dharampur, Roorkee, Distt- Hardwar	MBA

**LIST OF MCA INSTITUTE AFFILIATED TO UTTARAKHAND TECHNICAL
UNIVERSITY-2018-19**

S.No.	Institute Name	Courses
01	Amrapali Institute of Management & Computer Applications, Shiksha Nagar, Lamachaur, Haldwani	MCA (IInd year direct)
		MCA
02	Tula's Institute, Dhoolkot, Selaqui, Teh. Vikasnagar, Chakrata Road, Dehradun	MCA
03	Roorkee Institute of Technology, 08 KM. Dehradun Road, Puhana, Roorkee, Distt-Hardwar	MCA
04	COER School of Management, Roorkee	MCA
05	Mahadevi Institute of Technology, 10 New Road, Dehradun-248001 (Uttarakhand).	MCA
06	Devbhoomi Institute of Technology, Manduwala, Dehradun.	MCA
07	Institute of Management Studies, Roorkee, 10KM. Stone, Roorkee-Dehradun Highway, Roorkee	MCA
08	Birla Institute of Applied Sciences, Bhimtal, Nainital	MCA

**LIST OF BHMCT INSTITUTE AFFILIATED TO UTTARAKHAND TECHNICAL
UNIVERSITY-2018-19**

S.No.	Institute Name	Courses
01	Amrapali Institute of Hotel Management, Shikshanagar, Haldwani	BHMCT
02	Kukreja Institute of Hotel Management & Catering Technology, Mata Mandir Road, AjabpurKhurd, Dehradun	BHMCT
03	Govt. Institute of Hotel Management, Patel Nagar, Dehradun	BHMCT
04	Jagat Singh Bisht Govt. Institute of Hotel Management, Almora	BHMCT
05	State Institute of Hotel Management Catering Technology & Applied Nutrition, New Tehri	BHMCT