

AMRITA Information Hand Book

B.Tech Admission 2024

Campuses

Andhra Pradesh
Amaravati

Karnataka
Bengaluru

Kerala
Amritapuri

Tamilnadu
Chennai
Coimbatore
Nagercoil*

Entrance Exam **AEEE**



"Our educational system needs to give equal importance to the intellect and the heart." — Mata Amritanandamayi



Directorate of Admission

Amrita Vishwa Vidyapeetham,

Amrita nagar PO, Ettimadai,

Coimbatore - 641112,

Tamilnadu, INDIA.

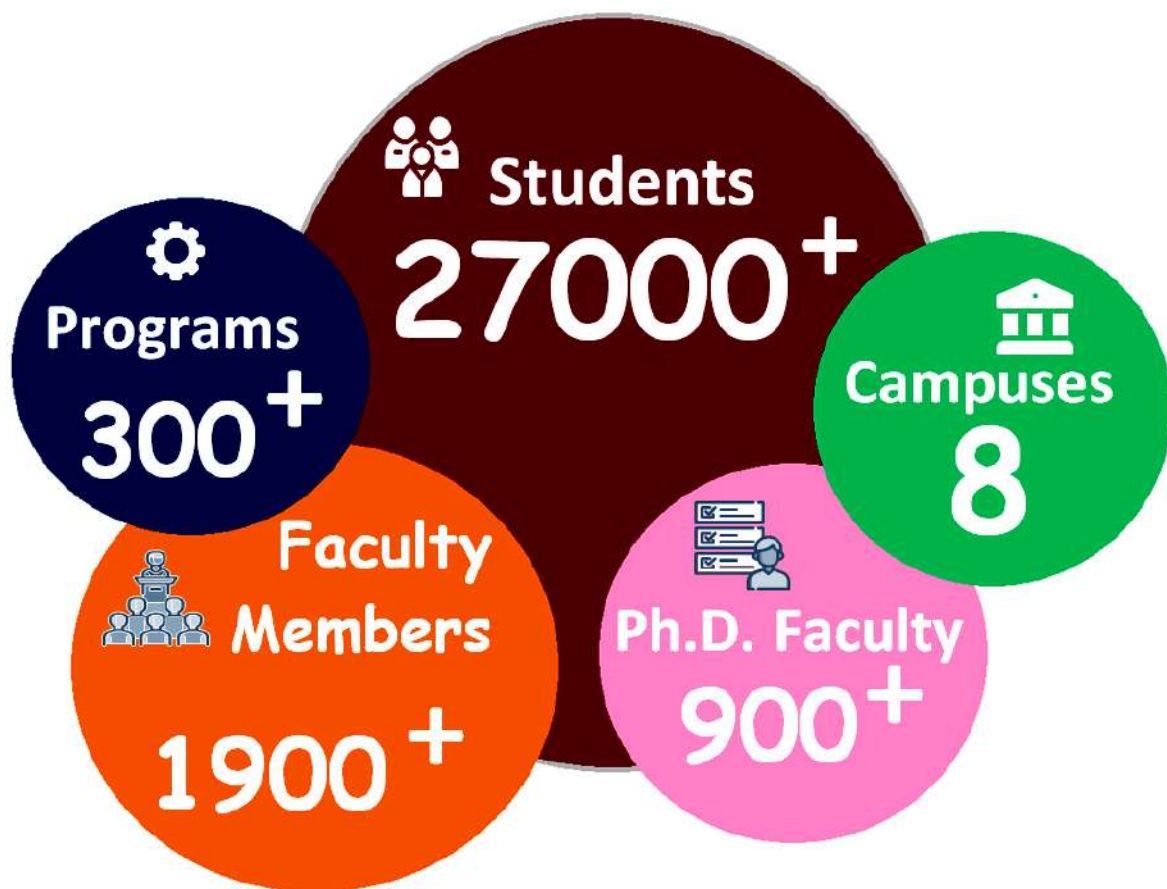
LET YOUR SUCCESS STORY START WITH AMRITA

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ABOUT AMRITA VISHWA VIDYAPEETHAM

Amrita Vishwa Vidyapeetham is a multi-campus, multi-disciplinary research academia that is accredited 'A++' by **NAAC** and is ranked as one of the best research Institutions in India. Amrita Vishwa Vidyapeetham has been ranked 7th best among all universities in India in 2023 **National Institutional Ranking Framework** (NIRF) released by MHRD, Govt. of India. Amrita is spread across **nine campuses in five states of India – Andhra Pradesh, Haryana, Karnataka, Kerala and Tamil Nadu** with the **headquarters in Tamil Nadu at Ettimadai, Coimbatore**. Amrita Vishwa Vidyapeetham continuously collaborates with top US Universities including Ivy league Universities and top European Universities for regular student exchange programs, and has emerged as one of the fastest growing Institutions of higher learning in India. The Institution is managed by the Mata Amritanandamayi Math.





AMARAVATI CAMPUS

Located near the banks of the Krishna River between natural getaways and places of heritage, Amaravati city is built around sustainability and liveability principles. We are building one of the most buoyant center of the research, education and technological advancement, in the all new greenfield capital city. With over 100 acres' campus, that will feature green lawns and the burgeoning trees, is well connected by road, rail and air to the IT and business hubs of the both Andhra Pradesh and Telangana states.



AMRITAPURI CAMPUS

The Amritapuri campus, nestled in the backdrop of the beautiful village of Vallikavu, provides warmth and serenity to its visitors. It provides a homely atmosphere to the students. Located close to the international headquarters of the Mata Amritanandamayi Math, the campus provides an environment that harmoniously blends learning and research. The technical excellence of the campus has made it a learning hub for students from all around the globe. Advanced research facilities helps enhance one's appetite for learning.



BENGALURU CAMPUS

Located at the heart of Bengaluru, is one of the most effervescent center of the research, education, and technological advancement, in the tech-city. The 50 acres campus, featuring green lawns and the burgeoning trees, is well connected by road, rail and air.



CHENNAI CAMPUS

The Chennai Campus of Amrita Vishwa Vidyapeetham is spread over 54,834 sq.m. of land and a total built up area of 24,956.435 sq m. The Institution's Chennai campus is home to School of Engineering. The School of Engineering, Amrita Vishwa Vidyapeetham, Chennai Campus, was setup as part of the vision of world-renowned, Mata Amritanandamayi Math.



COIMBATORE CAMPUS

HEADQUARTERS

Amrita Vishwa Vidyapeetham is situated in the obscure village of Ettimadai, at the foothills of the mesmerising Bouluvanpatty ranges of the Western Ghats in the Coimbatore district of Tamil Nadu. The pristine beauty of nature offers a soothing environment for the students which is conducive for growth. The campus, through its value based education, provides a diverse platform for personality development. Amrita provides a unique educational experience that matches the global level. This indelible experience remains a lasting memory in the students.



FARIDABAD CAMPUS

A land that has witnessed the historical prominence of ultra-modern facilities in India. A place where science, technology, and research merge to embrace good health across a 130-acre sprawling health city campus. It is India's largest multi-specialty hospital and extend beyond teaching and learning to include research, which is at the forefront of innovation and discovery. This multidisciplinary institution will impart knowledge to a vibrant community of more than 20,000 students with 800+ Ph.D. faculty and over 250 programs. The medical college with a built-up area of 5.2 lakh square feet with a completely dedicated research block looks forward to the advancements and innovations of every student.



KOCHI CAMPUS

The expansive and serene Brahmasthanam Temple Complex at Edappally, Kochi, by the NH-17 is home to Amrita Vishwa Vidyapeetham-Kochi Campus, which is candidly achieving fame and glory.



MYSURU CAMPUS

One of the nine campuses of Amrita Vishwa Vidyapeetham established under Section 3 of the UGC Act 1956 is a multi campus institution and is accredited by NAAC with 'A++' Grade. Amrita Vishwa Vidyapeetham, Mysuru Campus located in a peaceful environment, away from the hustle & bustle of city, yet well connected by road, provides an ambience for learning, combining state-of-the-art facilities with a serene ashram and temple atmosphere.



NAGERCOIL CAMPUS*

• SUBJECT TO APPROVAL

Amrita Institutions Campus, Nagercoil, in a sprawling lush green area, which is situated about 5 Kilometres north of Nagercoil, the headquarter of Kanyakumari District. Nagercoil Railway Station is 7 km from the campus. This campus is well connected by rail and road. Thiruvananthapuram, the capital of Kerala, is 75 Kilometers from the campus. The atmosphere is conducive to calm and peaceful academic pursuit.

ADMISSION PROCEDURE

Admission to **B.Tech programmes** offered at various campuses of Amrita Vishwa Vidyapeetham is managed by Directorate of Admissions.

Admission to **B.Tech programmes** is through the entrance examination conducted by the University. Students desirous of joining B.Tech programme, after passing their plus two or equivalent examination are required to attend our Engineering entrance examination (AEEE) 2024..

Note: Those who appear for +2 or Equivalent examination in March/April 2024 and expect to secure minimum marks (**as specified**), may also apply

CAMPUSES & COURSES OFFERED:

Amaravati (AMR) | Amritapuri (AMP) | Benagluru (BLR) | Chennai (CHE)
| Coimbatore (CBE) | Nagercoil (NGL)* |

Admission to B.Tech Programmes	AMR	AMP	BLR	CBE	CHE	NGL*
Through AEEE 2024 / JEE Mains 2024						
Aerospace Engineering (AEE)				✓		
Artificial Intelligence (AI) and Data Science (AID)		✓	✓	✓		
Automation & Robotics Engineering (ARE)				✓	✓	
Civil Engineering (CIE)				✓		
Chemical Engineering (CHE)				✓		
Computer Science & Engineering (CSE)	✓	✓	✓	✓	✓	✓*
Computer Science & Engineering (Artificial Intelligence - CAI)	✓	✓	✓	✓	✓	✓*
Computer & Communication Engineering (CCE)	✓			✓	✓	
Computer Science & Engineering (Cyber Security - CYS)		✓		✓	✓	
Electronics & Communication Engineering (ECE)		✓	✓	✓	✓	✓*
Electrical & Electronics Engineering (EEE)		✓	✓	✓		
Electronics & Computer Engineering (EAC)		✓	✓			
Electrical & Computer Engineering (ELC)		✓	✓	✓		
Mechanical Engineering (MEE)		✓	✓	✓	✓	
Robotics And Artificial Intelligence (RAI)		✓	✓			

* Subject to approval

ADMISSION / ALLOCATION FOR ALL B.TECH PROGRAMMES :**I. ADMISSION TO B.TECH PROGRAMS :**

Admission to B.Tech Programmes offered at **Amrita School of Engineering** – Amaravati, Amritapuri, Bengaluru, Chennai, Coimbatore and Nagercoil campuses for the Academic Year (AY) 2024-2025 is **through and based on the rank scored in:**

1. Amrita Entrance Examination – Engineering (AEEE) 2024

(OR)

2. JEE Mains 2024 CRL Rank

If JEE Mains is conducted multiple times, all the scores released prior to the **Amrita B.Tech. Centralised Seat Allotment Process (CSAP)** will be looked into and the best result considered.

II. ALLOCATION OF SEAT for B.TECH PROGRAMS:

AEEE 2024	:	70 % of the seat allotment
JEE Mains 2024	:	30 % of the seat allotment
A candidate can choose to apply either through AEEE or JEE Mains 2024 individually or even select both.		

AMRITA ENTRANCE EXAMINATIONS - 2024:

Amrita Entrance Examinations 2024 (**AEEE**) in the year 2024 will be conducted **ONLY** in **Computer Based Test (CBT)** mode in various centres at selected cities. Please be in touch with the admission website for latest updates.

COMPUTER BASED TEST (CBT):

Refer **APPENDIX I** for exam centres in selected cities.

DURATION OF THE CBT EXAMINATION:

Name of the Examination	Year	Duration	Subjects	No. of Questions
AEEE	2024	150 Minutes (2.5 Hours)	Maths, Physics, Chemistry, English	100 Questions

EXAMINATION DATES (TENTATIVE):

Amrita Vishwa Vidyapeetham is planning to conduct the Amrita Entrance Examination Engineering - 2024 as follows:

Name of the Examination	Year	Date of Examination	Slots per day	Timing
AEEE	2024	Phase I – January 19 to 22	2 slots	10.00 to 12.30 AM 2.00 to 4.30 PM
		Phase II – May 10 to 14		

(slot bookings will be opened in advance before the date of examination)

Important Note:

- These dates are tentative
- The number of days of the Examination will be changed depending on the strength of the candidates.
- Dates may get deferred -
 - Based on the government notifications
 - In case there is any other major examination scheduled on these dates and / or due to which majority of the candidates are unable to appear for AEEE 2024.
 - Because of any other reason
- Candidates who are unable to appear in Phase I of the AEEE 2024 will have the provision to appear in Phase II.
- Candidates who have appeared in Phase I of the AEEE 2024 examination can also appear for Phase II examination by paying an additional fee of **INR 600**. This is an opportunity given to the candidates for improving their scores.
- Best score from both Phase I and Phase II in AEEE 2024 examinations will be taken for AMRITA Ranking.
- Candidates appearing for AEEP, AEEL and AEEB will have only one chance to appear for the examination.
- University holds the right to defer the mode / **State/City/venue** / dates / slots of the examinations as per the situation, whatsoever, prevailing at that time.
- Candidates are advised to keep in touch with our website regularly for the latest updates."

ELIGIBILITY CRITERIA :

AGE/DATE OF BIRTH : Candidates, whose date of birth falls on or after 1st July, 2003

EDUCATIONAL QUALIFICATIONS : A pass in 10 + 2 (Class XII) or its equivalent examination from a recognized board with minimum **60% aggregate of marks in Mathematics, Physics and Chemistry and with not less than 55% in each of these three subjects, Physics, Chemistry and Mathematics.**

COST OF AEEE 2024 APPLICATION:

AEEE only	AEEE + JEE	JEE only
INR 1200	INR 1200	INR 500

The application fee may be paid online either by credit / debit card or net banking. **In case the examination fee is paid through credit / debit card, the candidates may have to pay an additional processing charges of the concerned bank.**

Please note that fee submitted through any other mode like money order, demand draft, IPO etc. is not accepted for online applications.

Application fee once paid will not be refunded (full or partial) under any circumstances.

Post your payment queries in Query Management System in the **Amrita Online Application Portal (AOAP)** to get a faster response.

APPLICATION SUBMISSION – ONLINE

Application submission is online and shall be submitted via the website: www.amrita.edu/btech

The candidates are advised to have their own personal and valid email ID and mobile No. The candidates are advised to retain the registered mobile number and email-id they have submitted in the application form till all the admission procedures are completed as all important updates will be informed to the candidates through SMS / e-mail or both.

You need to complete the following sections in order to submit the application. Refer next section for more details on application form data. You are to fill all the details initially and complete the payment as the application is deemed to be completed only after the payment.

Details to be filled are:

a) **Personal Profile :**

STEP 1 – Profile Details (Name, Address & Contact details, upload Photograph, Signature)

STEP 2 – Parent / Guardian Details (Name, contact details)

STEP 3 – HSC / +2 Studied state Details

b) **Application Details** (In Dashboard) :

Name of Entrance Exam will be displayed – Candidate needs to select the AEEE 2024 by clicking on “APPLY” button.

- **Preference Selection** : Select the AEEE 2024 City preferences. (indicate 3 Choices)
- **JEE MAIN 2024 CRL Rank** : Intimate your willingness to be considered for allotment through JEE CRL Rank.
- **Preview and Submit** : Preview the application and click submit button.

c) **Payment** (Cost of application for the relevant courses)

d) **Academic Profile*** (Marks of the qualifying examination & year, Last attended school, etc.,)

e) **Upload Documents***.

NOTE: * Academic Profile, documents upload and JEE Mains 2024 Score Card (with CRL Rank) may be entered after the publication of the results. **It is not mandatory to fill the same at the time of filling the application.**

APPLICATION FORM DATA ENTRY

The name of the candidate and his/her parents’ name in the application form must exactly be the same as registered in Class 10th Certificate. Prefix/title such as Mr./Shri/Fr/Dr/Mrs./Smt./Col etc., must not be used.

Candidates are instructed to intimate us for necessary corrections / modifications of particular(s) of the application data, if any, prior to the Entrance Examination. Request for change will not be accepted after the Entrance Examination.

The candidates are advised not to send hard copy of the online application to the University. However, the candidates are advised to retain the hard copy of the application, i.e., acknowledgement page for future reference or correspondence, if any.

EXAMINATION CITIES – CENTRES / TOWNS

The names of the cities where CBT Examinations will be conducted is listed in **Appendix–I**. Choose the city listed in the online application to write the examination. A candidate appearing for CBT should submit three preferences from the list of cities in Appendix – I. Examination will be conducted in a centre in these cities, provided there are enough candidates. The preferences submitted by the candidate are only indicative and a guide to the University for deciding the number of cities & centres. A candidate will be allotted one out of the three preferred cities, preferably the first preferred city. If exam cannot be conducted at the first preferred city of a candidate, for any reason whatsoever, he / she will be allotted to second / third preference as applicable. University will put all efforts to conduct examination at all the cities listed in the appendix. If any city in the list is cancelled due to very less registrations or for any other reason, the candidates who have opted for that city will be allotted to another city nearest to their preference and the same will be informed to the candidates by email.

REQUESTS FOR CHANGE OF EXAMINATION CITY/ TOWN

Normally, the requests for change of cities will not be entertained after the application submission. The decision of the Admission Committee will be final in case of any such requests raised in this regard.

SYLLABUS, PATTERN AND EVALUATION

- The questions are based on the syllabus in Class 11th & Class 12th.
- **The syllabus for AEEE 2024 is appended in Appendix – II.**
- The pattern of examination paper for **AEEE 2024** is given in the website: www.amrita.edu/btech
- All the questions are of **Multiple-Choice type** and will have four options as possible answers.
- Candidates can choose the most appropriate answer for each question in the Computer Based Test (CBT) mode. Answers marked can be changed later, before the final submission of all the answers.
- **3 (Three) marks** are awarded for each correct answer and **-1(negative one)** for each wrong answer.

NUMBER OF QUESTIONS AND MARK DISTRIBUTION for AEEE 2024:

Subject	No. of Questions	Marks (3)
Mathematics	40	120
Physics	30	90
Chemistry	25	75
English	05	15
TOTAL	100	300

Use of Calculator and Communication Aids

Use of electronic devices like mobile phones, calculators etc. are **NOT PERMITTED** for AEEE 2024. Materials like log table, book, notebook, etc. should **NOT** be brought into the examination hall for CBT.

SLOT BOOKING FOR ENTRANCE EXAMINATIONS 2024:

Candidates registered for Computer Based Test of AEEE 2024 shall select “**DATE AND TIME SLOT**” of their choice, SUBJECT TO AVAILABILITY, by visiting the admission portal prior to the last date. This process is called “**SLOT BOOKING**.” Test Centre, Number of days and Number of operating slots in a day will be finalised based on the number of candidates for a particular city. The allotment of date / slot will be on first come first serve basis. If a candidate does not exercise his / her option, he/she shall be assigned a date/ slot as per the availability of the same. To Book Exam Date and Slot, registered candidates need to click the slot booking link provided in the University webpage www.amrita.edu/btech and follow the instructions given below:

COMPUTER BASED TEST AT CENTRES (CBT)

- a) Candidates can login using their registered Mobile Number / Email Id and will be logged in only after OTP verification. In case of any difficulty logging in, open a ticket in the online query management in the application portal.
- b) After logging in, the candidates can select the test date and test slots based on the availability. To choose the date, click on the available date and click continue button. In the next screen, candidates will be prompted to select test slot based on its availability status.
- c) Since other candidates are also simultaneously using the same slot booking portal, sometimes the status presented may change by the time the candidate finishes his/her selection and the particular slot chosen by the candidate may not be available. In such case, the candidate will be prompted to choose another date and slot. To change the test date, click on Change Test Date button. Candidates are advised to check selection of Test Centre, Date and Time before confirmation. Click “Confirm Slot” button to confirm booking.
- d) A slot once booked cannot be changed under any circumstances. Requests for change of test centers also will not be entertained. The address of the examination centre for a candidate will be mentioned in the Admit Card, which can be downloaded.

ADMIT CARD DOWNLOAD

Admit Card is issued provisionally to the candidate to attend the Entrance Examination. Admit Card to write the examination is generated only to those eligible candidates who have submitted their application form complete in all respects.

Admit cards to attend the respective Amrita Entrance Examinations 2024 shall be downloaded from the website by login using their registered Mobile Number / Email Id and will be logged in only after OTP verification. Intimation in this regard will be sent by SMS and email.

1. Admit Card will not be sent by post. Visit www.amrita.edu/btech to see the link to download the Admit Card. The Admit Card will contain details like the Name and Registration Number of the candidate, Date of Exam, Address of the Exam Centre allotted etc.
2. After downloading the admit card, ensure that the data is printed as per the application form submitted by you. In case of any discrepancy, open a ticket in the online query management system for a faster resolution.
3. Admit Card is an important document and must be kept safe till the completion of admission procedure.
4. Candidate will not be permitted to appear for the CBT entrance examination without a valid Admit Card. In the examination hall, candidate should produce his/her Admit Card when demanded by the invigilator.
5. Request from a candidate for change of city allotted to him/her will NOT be entertained under any circumstances for CBT.

AMRITA ENTRANCE EXAMINATIONS 2024 - GUIDELINES - COMPUTER BASED TEST (CBT)

A sample/mock test is available on our website for practice purpose and to give the candidate an awareness of the Computer Based Test (CBT). **The examination rooms / hall for CBT will be opened one hour before the commencement of the test on the respective dates.** The candidates should take their seats in the examination hall **30 minutes prior to the commencement of the examination.** If the candidates do not report on time, they are likely to miss some of the general instructions to be announced in the examination hall. A seat indicating the roll number is allocated to each candidate. Candidates should find out and occupy only their allotted seat. Any candidate found to have changed room or the seat on his/her own other than allotted, his/her candidature shall be cancelled, and no plea would be accepted for it. The candidate must show, on demand, the Admit Card for admission in the examination room/hall. The test will start exactly at the time mentioned in the Admit Card. During the examination time, the invigilator will check Admit Card of the candidate to satisfy himself/herself about the identity of each candidate.

CODE OF CONDUCT

The candidates are governed by all Rules and Regulations of the University regarding their conduct in the Examination Hall. All cases of unfair means will be dealt with as per University rules. Candidates shall maintain perfect silence and attend to their question paper only. Any conversation or gesture or disturbance in the Examination Room / Hall shall be deemed as misbehaviour.

If a candidate is found using unfair means or impersonating, his/her candidature shall be cancelled, and he/she will be liable to be debarred for taking examination either permanently or for a specified period according to the nature of offence. The decision of the Admission Committee is final and is binding on the candidate.

AMRITA ENTRANCE EXAMINATIONS 2024 RESULT

Result will be released for all the candidates who have appeared in Amrita Engineering Entrance Examination 2024 provided the candidate has not indulged in any sort of malpractice and /or against the rules and regulations of the examination as laid by the University. Candidates will be able to access their result by entering the login details in our admission portal.

TERMS AND CONDITIONS FOR AWARD AND RENEWAL OF SCHOLARSHIP FEES for B.Tech:

Scholarship Fees i.e. Slabs 1 & 2 is allotted for the Academic Year 2024-2025 ONLY.

Renewal of scholarship Fees for subsequent years is subject to meeting the following conditions:

1. Consistent Academic performance by securing a Cumulative Grade Point Average (CGPA) of
 - (i) **Category I –**
8.0 and above in the case of Scholarship Slab 1 at the end of each academic year
 - (ii) **Category II -**
7.5 and above in the case of Scholarship Slab 2 at the end of each academic year

2. No disciplinary action during the period of study in the University.

3. Clearing each semester without any arrear

Failing to meet the aforesaid conditions 1 and 2 the candidate will be required to pay higher fees in the subsequent years.

Category I:

- If Slab 1 Student maintains CGPA 8.0 and above, the same fees slab will continue.
- If his/her CGPA is between 7.5 and 8.0, he/she will pay Slab 2 fees in the subsequent year.
- If his/her CGPA is below 7.5, he/she will pay **Regular fees Slab 3** in the subsequent year.

Category II:

- If Slab 2 Student maintains CGPA between 7.5 and above, the same fees slab will continue.
- If his/her CGPA is below 7.5 he/she will pay **Regular fees Slab 3** in the subsequent year.

In the event a student moves to higher fee slab due to not meeting conditions 1, and 2 above, the student will not be able to move back to the old slab even if his/her CGPA improves in further subsequent years.

In the 2nd year, in case there is any vacancy in the Scholarship Fee Slab 1/ Slab 2 categories arising due to the students moving to a higher fee slab, the same will be awarded to the toppers in each branch.

FEE STRUCTURE:

Refer our website : www.amrita.edu/btech

WITHDRAWAL / CANCELLATION OF ADMISSION – POLICIES & RULES

Procedures and rules on the withdrawal from the admission process is published prior to the counseling process. Candidates are requested to visit website www.amrita.edu/btech for all the admission updates.

REFUND POLICY

- ❖ Refund will be made as per the norms of University Grants Commission (UGC)/respective Statutory Council.
- ❖ Refund will be made only after submission of fee receipt, Provisional Seat Allotment Order [received by email] & no dues certificate. The refund will be made through account transfer to the account number mentioned in the withdrawal request. Hence, the correct bank account details may be provided in the withdrawal request.
- ❖ Refund will be effected only after the final allotment.

SETTLEMENT OF DISPUTES:

In case of any disputes in the interpretation of any of the conditions included in this handbook or in any other matter related to B.Tech admissions 2024 covered by the Rules and Regulations contained herein, decision of the Director of Admissions, Amrita Vishwa Vidyapeetham will be final and binding on the candidate.

JURISDICTION:

Courts situated in Coimbatore District, Tamil Nadu only will have jurisdiction over disputes, if any, arising on the matter of application and/or admission to the courses covered in these Rules and Regulations.

ALL CORRESPONDENCE RELATED TO B.TECH ADMISSION SHOULD BE ADDRESSED TO:

Directorate of Admissions

Amrita Vishwa Vidyapeetham, Amritanagar (PO), Ettimadai,
Coimbatore – 641112, Tamilnadu.

Phone: **044 - 46276066** [Toll Free]

Email : directoradmissions@amrita.edu

APPENDIX I:

Amrita Entrance Examination-Engineering(AEEE) - 2024 EXAMINATION CITIES FOR COMPUTER BASED TEST (CBT) Only for B.TECH			
Sl. No.	State	Exam City Name	Exam City Code
1	Andhra Pradesh	ANANTAPUR	1001
2		EAST GODAVARI	1002
3		GUNTUR	1003
4		Kakinada	1004
5		KRISHNA	1005
6		KURNOOL	1006
7		NELLORE	1007
8		PRAKASAM (Ongole)	1008
9		SRIKAKULAM	1009
10		TIRUPATI	1010
11		VIJAYAWADA	1011
12		VISAKHAPATNAM	1012
13		VIZIANAGARAM	1013
14		WEST GODAVARI (Tadeppalligudam)	1014
15		YSR (Cudappa)	1015
16	Arunachal Pradesh	Itanagar	1101
17	Assam	Guwahati	1201
18	Bihar	BHAGALPUR	1301
19		MUZZAFARPUR	1302
20		PATNA	1303
21	Chhattisgarh	BILASPUR	1401
22		DURG	1402
23		RAIPUR	1403
24	Goa	GOA	1501
25	Gujarat	AHMEDABAD	1601
26		GANDHINAGAR	1602
27		RAJKOT	1603
28		SURAT	1604
29		VADODARA	1605
30	Haryana	FARIDABAD	1701
31		GURUGRAM	1702
32		SONIPAT	1703
33	Himachal Pradesh	SHIMLA	1801
34	Jammu and Kashmir	JAMMU	1901
35	Jharkhand	Bokaro	2001
36		Dhanbad	2002
37		Jamshedpur	2003
38		RANCHI	2004

Sl. No.	State	Exam City Name	Exam City Code
39	Karnataka	BALLARI	2101
40		Belagavi	2102
41		Bengaluru	2103
42		Chikkamagalur	2104
43		DAVANGERE	2105
44		Dharward	2106
45		Hassan	2107
46		Hubli	2108
47		Kalaburgi	2109
48		Kodagu	2110
49		Kolar	2111
50		Madikeri	2112
51		Mandya	2113
52		Mangaluru	2114
53		MYSURU	2115
54		Raichur	2116
55		Tumkur	2117
56		Uduppi	2118
57	Kerala & Mahe	ALAPUZHA	2201
58		ERNAKULAM	2202
59		KANNUR	2203
60		Kasargod	2204
61		KOLLAM	2205
62		KOTTAYAM	2206
63		KOZHIKODE	2207
64		MALAPPURAM	2208
65		PALAKKAD	2209
66		PATHANAMTHITTA	2210
67		THIRUVANANTHAPURAM	2211
68		THRISSUR	2212
69	Madhya Pradesh	BHOPAL	2301
70		GWALIOR	2302
71		INDORE	2303
72		JABALPUR	2304
73	Maharashtra	AURANGABAD	2401
74		MUMBAI	2402
75		NAGPUR	2403
76		Panvel	2404
77		PUNE	2405
78	Meghalaya	SHILLONG	2601
79	Mizoram	Aizawl	2701
80	Nagaland	Kohima	2801

Sl. No.	State	Exam City Name	Exam City Code
81	Odisha	BHUBANESHWAR	2901
82		CUTTACK	2902
83		KHORDHA	2903
84	Punjab	AMRITSAR	3001
85		JALANDHAR	3002
86		LUDHIANA	3003
87	Rajasthan	JAIPUR	3101
88		JODHPUR	3102
89		KOTA	3103
90		SIKAR	3104
91		UDAIPUR	3105
92	Sikkim	Gangtok	3201
93	Tamil Nadu & Puducherry	CHENGALPATTU	3301
94		CHENNAI	3302
95		COIMBATORE	3303
96		CUDDALORE	3304
97		DINDIGUL	3305
98		ERODE	3306
99		HOSUR	3307
100		KANCHIPURAM	3308
101		KARUR	3309
102		MADURAI	3310
103		Nagercoil	3311
104		NAMAKKAL	3312
105		Ootty	3313
106		PONDICHERY	3314
107		SALEM	3315
108		THANJAVUR	3316
109		THENI	3317
110		THENKASI	3318
111		THIRUVALLUR	3319
112		Thoothukkudi	3320
113		TIRUCHIRAPALLI	3321
114		TIRUNELVELI	3322
115		TIRUPPUR	3323
116		VELLORE	3324
117		VIRUDHUNAGAR	3325

Sl. No.	State	Exam City Name	Exam City Code
118	Telangana	HYDERABAD	3401
119		KARIMNAGAR	3402
120		KHAMMAM	3403
121		MEHBUBNAGAR	3404
122		NALGONDA	3405
123		NIZAMABAD	3406
124		RANGAREDDY	3407
125		SANGAREDDY	3408
126		SURYAPET	3409
127		WARANGAL	3410
128	Tripura	Agartala	3501
129	Uttar Pradesh	AGRA	3601
130		Bareilly	3602
131		GHAZIABAD	3603
132		Gorakhpur	3604
133		Kanpur	3605
134		LUCKNOW	3606
135		Mathura	3607
136		MEERUT	3608
137		Noida	3609
138		Prayagraj	3610
139		VARANASI	3611
140	Uttarakhand	DEHRADUN	3701
141	West Bengal	Asansol	3801
142		Durgapur	3802
143		KOLKATA	3803
144		Siliguri	3804
145	Andaman and Nicobar Islands	Nicobar	3901
146	Chandigarh	CHANDIGARH	4001
147	Delhi	DELHI	4301
148	Lakshadweep	Lakshadweep	4401
149	UAE	DUBAI	5001

MATHEMATICS

Unit 1: Sets, Relations and Functions: Sets and their representation: Union, intersection and complement of sets and their algebraic properties; Power set; Relation, Type of relations, equivalence relations, functions; one- one, into and onto functions, the composition of functions.

Unit 2: Complex Numbers: Complex numbers in the form $a+ib$ and their representation on a plane. Argand diagram. Algebra of complex numbers, Modulus and argument (or amplitude) of a complex number.

Unit 3: Permutations and Combinations: Fundamental principle of counting; Permutation as an arrangement and combination as selection, simple applications.

Unit 4: Binomial Theorem: Binomial theorem for positive integral indices. General and middle terms in binomial expansions, simple applications.

Unit 5: Sequences and Series: Arithmetic and Geometric progressions. Insertion of Arithmetic and Geometric means between two given numbers. Relation between A.M. and G.M.

Unit 6: Matrices and Determinants: Determinants and matrices of order two and three, Properties of determinants. Evaluation of determinants. Addition and multiplication of matrices, adjoint and inverse of matrix. Solution of simultaneous linear equations using determinants.

Unit 7: Quadratic Equations: Quadratic equations in real and complex number system and their solutions. Relation between roots and coefficients, Nature of roots, Formation of quadratic equations with given roots.

Unit 8: Trigonometry: Trigonometrical identities and equations. Inverse trigonometric functions and their properties. Properties of triangles including centroid, incentre, circumcentre and orthocentre, Solution of triangles. Heights and distances.

Unit 9: Statistics: Calculation of Mean, Median and Mode of grouped and ungrouped data, Calculation of standard deviation, variance and mean deviation for grouped and ungrouped data.

Unit 10: Probability: Probability of an event, addition and multiplication theorems of probability and their applications; Conditional probability; Bayes' theorem, Probability distribution of a random variate.

Unit 11: Limit, Continuity and Differentiability: Polynomials, rational, trigonometric, logarithmic and exponential functions; Graphs of simple functions, Limits, Continuity; Differentiation of the sum, difference, product and quotient of two functions; Differentiation of trigonometric, inverse trigonometric, logarithmic, exponential, composite and implicit functions; Derivatives of order upto two, Applications of derivatives; Maxima and Minima of functions one variable, tangents and normal.

Unit 12: Integral Calculus: Integral as an anti-derivative. Fundamental integrals involving algebraic, trigonometric, exponential and logarithmic functions; Integration by substitution, by parts and by partial fractions; Integration using trigonometric identities; Integral as a limit of sum; Properties of definite integrals. Evaluation of definite integral; Determining areas of the regions bounded by simple curves.

Unit 13: Differential Equations: Ordinary differential equations, their order and degree; Formation of differential equation; Solutions of differential equations by the method of separation of variables; Solution of Homogeneous and linear differential equations of first order.

Unit 14: Co-ordinate Geometry: Review of Cartesian system of rectangular co-ordinates in a plane, distance formula, area of triangle, condition for the collinearity of three points, slope of a line, parallel and perpendicular lines, intercepts of a line on the coordinate axes.

Unit 15: The Straight Line and Pair of Straight Lines: Various forms of equations of a line, intersection of lines, angles between two lines, conditions for concurrence of three lines, distance of a point from a line.

Unit 16: Circles and Family of Circles: Standard form of equation of a circle, general form of the equation of a circle, its radius and centre, equation of a circle in the parametric form, equation of a circle when the end points of a diameter are given, points of intersection of a line and circle with the centre at the origin

Unit 17: Conic Sections: Sections of cones, equations of conic sections (parabola, ellipse and hyperbola) in standard forms, conditions for $y = mx + c$ to be a tangent and point(s) of tangency.

Unit 18: Vector Algebra: Vector and scalars, addition of two vectors, components of a vector in two dimensions and three-dimensional space, scalar and vector products, scalar and vector triple product. Application of vectors to plane geometry.

Unit 19: Three-Dimensional Geometry: Distance between two points. Direction cosines of a line joining two points. Cartesian and vector equation of a line. Coplanar and skew lines. Shortest distance between two lines. Cartesian and vector equation of a plane. Angle between (i) two lines

PHYSICS

Unit 1: Units and dimensions:

Units for measurement, system of units, SI, fundamental and derived units, dimensional analysis.

Unit 2: Kinematics:

Uniform and non-uniform motion, average speed and instantaneous velocity, uniformly accelerated motion, velocity- time, position-time graph, relations for uniformly accelerated motion, Scalars and Vectors, Vector. Addition and subtraction, zero vector, scalar and vector products, Unit Vector, Resolution of a Vector. Relative Velocity, Motion in a plane, Projectile Motion, Uniform Circular Motion.

Unit 3: Mechanics

Newton's laws of motion, conservation of linear momentum, Friction; Work-Energy theorem, kinetic energy, potential energy, conservation of energy; elastic collision in one and two dimensions.

Center of mass of a system of particles, centre of mass of a rigid body, rotational motion and torque, angular momentum and its conservation, moments of inertia for various geometries, parallel and perpendicular axes theorem.

Universal law of gravitation, acceleration due to gravity, planetary motion, Kepler's laws, Satellites, gravitational potential and potential energy and escape velocity.

Unit 4: Solids and Fluids

Solids: Elastic properties, Hooke's law, Young's modulus, bulk modulus, rigidity modulus.

Liquids: Cohesion and adhesion; surface energy and surface tension; flow of fluids; Bernoulli's theorem and applications; viscosity, Stoke's law, terminal velocity

Unit 5: Oscillations and Waves

Oscillations: Oscillatory motion - periodic and non-periodic motion; simple harmonic motion (SHM), angular SHM, linear harmonic oscillator – both horizontal and vertical; combination of springs

– series and parallel, simple pendulum; Expression of energy – potential energy, kinetic energy and total energy; Graphical representation of SHM. waves simple pendulum derivation of expression for its time period

Wave Motion: Properties of waves; Transverse and Longitudinal, speed of travelling wave – displacement relation for a progressive wave, Superposition of waves, Progressive and Standing waves; Vibration of strings and air columns, organ pipes – fundamental mode and harmonics, beats,

Unit 6: Heat and Thermodynamics

Heat, work and temperature; Ideal gas laws; Specific heat capacity, Thermal expansion of solids, liquids and gases, Relationship between C_p and C_v for gases; Newton's law of cooling, black body, Kirchhoff's law, Stefan's law and Wein's law, thermodynamic processes.

Unit 7: Electrostatics, Current Electricity and Magnetostatics

Electric charges and Fields: Electric Charge; Conductors and Insulators, Charging by Induction, Basic Properties of Electric Charge, Coulomb's Law, Forces between Multiple Charges, Electric Field, Electric Field Lines, Electric Flux, Electric Dipole, Dipole in a Uniform External Field, Continuous Charge Distribution, Gauss's Law, Applications of Gauss's Law.

Electrostatic potential and Capacitance: Electrostatic potential, Potential due to a point charge,

electric dipole, system of charges. Equipotential surfaces; Potential energy of a system of charges, potential energy in an external field, Electrostatics of conductors, Dielectric and Polarization, Capacitors and Capacitance, parallel plate capacitor, effect of dielectric on capacitance combination of capacitors, energy stored in a capacitor.

Current Electricity: Electric current, electric currents in conductors, Ohm's law, drift of electrons and the origin of Resistivity, temperature dependence of resistivity, electrical energy, power, combination of resistors, series and parallel, cells, emf, internal resistance, cells in series and in parallel, Kirchhoff's Rules, Wheatstone bridge, Meter bridge.

Magnetic effects: BiotSavart's law, magnetic field due to a straight wire, circular loop and solenoid, force on a moving charge in a uniform magnetic field (Lorentz force), forces and torques on a current carrying conductor in a magnetic field, force between current carrying wires, moving coil galvanometer and conversion to ammeter and voltmeter.

Magnetostatics: Bar magnet, magnetic field, lines of force, torque on a bar magnet in a magnetic field, earth's magnetic field; para, dia, and ferro magnetism, magnetic induction and magnetic susceptibility.

Unit 8: Electromagnetic Induction and Electromagnetic Waves

Electromagnetic Induction: Induced e. m. f: Magnetic flux, Faraday's law, Lenz's Law and Conservation of Energy, self and mutual inductance.

Alternating Current: Impedance and reactance; power in AC circuits; AC voltage applied to resistor, inductor, capacitor, LCR circuits and resonance, transformer and AC generator.

Electromagnetic Waves: Electromagnetic waves characteristics, electromagnetic spectrum from gamma to radio waves.

Unit 9: Kinetic Theory of Gases: Equation of state of a perfect gas, work done on compressing a gas, Kinetic theory of gases - assumptions, the concept of pressure. Kinetic energy and temperature: RMS speed of gas molecules: Degrees of freedom. Law of equipartition of energy, applications to specific heat capacities of gases; Mean free path. Avogadro's number.

Unit 10: Ray and Wave Optics

Ray Optics and optical instruments: Reflection and refraction of light by plain spherical mirrors - Total Internal Reflection; optical fiber; deviation and dispersion of light by a prism; lens formula; magnification and resolving power; microscope and telescope.

Wave Optics: Huygens principle: Wave nature of light, interference of light waves and Young's experiment, thin films, Newton's rings, Diffraction – single slit, grating, Polarization and applications.

Unit 11: Modern Physics

Dual nature of radiation and matter: De Broglie relation, Electron emission, photoelectric effect, experimental study, Einstein's photoelectric equation: Energy quantum of radiation; particle nature

of light, the photon, wave nature of matter.

Atoms: Alpha-particle scattering and Rutherford's nuclear model of atom, atomic spectra, Bohr model of the hydrogen atom; the line spectra of the hydrogen atom.

Nuclei: Atomic masses and composition of nucleus; size of the nucleus; mass-energy and nuclear binding energy; nuclear force; radioactivity; nuclear energy

Semiconductor materials, devices and simple circuits: Energy bands in solids; classification of metals, conductors and semiconductors.

CHEMISTRY

Unit 1 – Basic Chemical calculations: Density - mole concept - empirical and molecular formula – stoichiometry - volumetry, equivalent and molecular masses, percentage composition

Unit 2 - Atomic structure & periodicity: Atomic models, sub-atomic particles, orbital shapes, Pauli's exclusion, Hund's rule, Aufbau principle, de-Broglie relation, Heisenberg's uncertainty, electronic configuration and periodic properties.

Unit 3 - Chemical bonding: Ionic bonding, lattice energy – Born-haber cycle, covalent bond - Fajan's Rule – VSEPR theory - hybridization, valence bond and molecular orbital theory, coordinate, metallic and hydrogen bonding

Unit 4 - P-block elements: Boron - borax, boranes, diboranes, Carbon - allotropes, oxides, carbides, halides and sulphides of carbon group- silicon and silicates – silicones, Nitrogen – Fixation – compounds of nitrogen- Phosphorous

– allotropes and compounds. Oxygen - oxides and peroxide. Sulphur – its compounds - inter-halogen compounds.

Unit 5 - d and f block elements: d-block elements configuration and properties - transition elements, chromium, copper, zinc, silver, interstitial compounds and alloys, f - block elements and extraction, lanthanides and actinides

Unit 6 - Coordination compounds: Terminology in coordination- isomerism, Werner, VBT, CFT theories - Bio- coordination compounds.

Unit 7 - Solutions: Lowering of vapour pressure, Depression of freezing point, Elevation in boiling point, Osmotic pressure, abnormality - dissociation and association

Unit 8 – Electrochemistry: Faraday's laws - specific, equivalent and molar conductances, Kohlraush's law and applications- electrode potentials - EMF, electrochemical and, galvanic cells, Nernst equation, batteries, fuel cells, corrosion and its prevention.

Unit 9 -Thermodynamics: First and second law- internal energy, enthalpy, entropy, free energy changes– specific heats at constant pressure and constant volume – enthalpy of combustion, formation and neutralization, Kirchoff law

– Hess's law - bond energy

Unit 10 - Equilibrium: Law of chemical equilibrium, homogenous and heterogeneous equilibrium, Le Chatelier's principle, equilibrium constants, factors affecting- Ionic equilibrium, ionization of acids and bases, buffer solutions, pH -solubility of sparingly soluble salts

Unit 11 - Chemical kinetics: Order, molecularity, rate and rate constant – first and second order reactions - temperature dependence, factors influencing rate of reaction, integrated rate equation, collision theory of chemical reaction

Unit 12 - Basic Organic chemistry General introduction, methods of purification, qualitative and quantitative analysis, classification and IUPAC nomenclature. Electronic effects : inductive effect, electromeric effect, resonance and hyper conjugation. Homolytic and heterolytic fission: free radicals, carbocations, carbanions, electrophiles and nucleophiles, types of organic reactions.

Unit 13 - Hydrocarbons: Classification of Hydrocarbons: Alkanes, Alkenes, Alkynes - Nomenclature, Structure, Methods of preparation, isomerism, conformation (ethane only), physical properties, halogenation, pyrolysis, geometrical isomerism, addition of hydrogen, halogen, water, hydrogen halides, water to alkenes and alkynes (Markovnikov's addition and peroxide effect), ozonolysis, oxidation, mechanism of electrophilic addition, acidic character of alkynes. Aromatic Hydrocarbons: Introduction, IUPAC nomenclature, benzene: resonance, aromaticity, chemical properties: mechanism of Nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of functional group in monosubstituted benzene. Carcinogenicity and toxicity

Unit 14 - Organic halogen compounds: Nature of C-X bond- preparation - properties and reactions of alkyl and aryl halides- polyhalogen compounds - substitution and elimination – mechanism- Grignard reagents.

Unit 15 - Organic functional groups – hydroxyl, carbonyl compounds and ethers: Nomenclature, preparation, properties and uses of alcohols, ethers, aldehydes, ketones, aliphatic carboxylic acids, benzoic acid - salicylic acid.

Unit 16 - Biomolecules: Carbohydrates, proteins, amino acids - enzymes, vitamins, and nucleic acids - lipids.

ENGLISH

Articles, Synonyms, Antonyms, Preposition, Verbs.

Note:

This handbook contains general information and rules regarding the Amrita Engineering Entrance Examination 2024 and other relevant details. Candidates are required to go through the handbook carefully and acquaint themselves with the procedures relating to the admission. The contents of the handbook are subject to modification, as may be deemed necessary, by the University. The decision of the University will be final and binding on any issue related to the admission.