B.Tech Admissions 2019

Information Handbook

AMRITA VISHWA VIDYAPEETHAM | School of Engineering

AMRITAPURI | BENGALURU | COIMBATORE | CHENNAI | AMARAVATI

#8 RANKED 8 in University category as per NIRF India Rankings 2018
www.nirfindia.org/2018/UniversityRanking.html

1800 425 90009   btech@amrita.edu   amrita.edu/btech19

Campuses & Programmes Offered
Amaravati[*]
Branches offered:
- Computer Science & Engineering (CSE)
- Electronics & Communication Engineering (ECE)
- Electrical & Electronics Engineering (EEE)
- Mechanical Engineering (ME)
- Civil Engineering (CE)

Amritapuri
Branches offered:
- Computer Science & Engineering (CSE)
- Electronics & Communication Engineering (ECE)
- Electrical & Electronics Engineering (EEE)
- Mechanical Engineering (ME)

Bengaluru
Branches offered:
- Computer Science & Engineering (CSE)
- Electronics & Communication Engineering (ECE)
- Electrical & Electronics Engineering (EEE)
- Mechanical Engineering (ME)
- Electronics & Instrumentation Engineering (EIE)

Chennai
Branches offered:
- Computer Science & Engineering (CSE)
- Electronics & Communication Engineering (ECE)
- Electrical & Electronics Engineering (EEE)
- Mechanical Engineering (ME)
- Civil Engineering (CE)

Coimbatore
Branches offered:
- Computer Science & Engineering (CSE)
- Electronics & Communication Engineering (ECE)
- Electrical & Electronics Engineering (EEE)
- Mechanical Engineering (ME)
- Civil Engineering (CE)
- Aerospace Engineering (AE)
- Chemical Engineering (ChE)
- Electronics & Instrumentation Engineering (EIE)

*Subject to approval of concerned bodies

TABLE OF CONTENTS

ADMISSION PROCEDURE

Admission to B.Tech programmes offered at Amrita Schools of Engineering – Amaravati, Amritapuri, Bengaluru, Chennai, Coimbatore campuses for the academic year 2019 – 20 is through:

1. **Amrita Entrance Examination – Engineering 2019 (70% of seats)**
   Based on the rank scored in the Amrita Entrance Examination – Engineering 2019 conducted by Amrita Vishwa Vidyapeetham in two modes: Computer Based Test (CBT) and Pen & Paper Test (PPT). While CBT is conducted in 100+ centers across the country, PPT is conducted only in the state of Tamil Nadu.

2. **Joint Entrance Examination Mains 2019 (30% of seats)**
   Based on the rank scored in JEE Mains 2019 (one of the sessions).

A candidate can choose to apply through one of the above modes or both.

ADMISSION PROCESS

- Apply online and Register for Amrita Entrance Examination – Engineering 2019 / Choose the JEE Mains option.
- Submit your academic preference (campus + branch) prior to the registration for counseling.
- Register online for counseling after the publication of results.
- Accept the seat offer if satisfied with the allotment.
- Pay the tuition fees online.
- Satisfy the eligibility criteria by producing the original marks statement at the time of document verification.
- Classes to commence in the mid of July.

ELIGIBILITY & CRITERIA FOR ADMISSION TO B.TECH PROGRAMME:

Age: Candidates, whose date of birth falls on or after 1st July, 1998.

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

Note: Those who appear for the above examination in March/April 2019 and expect to secure minimum marks as above, may also apply.

APPLICATION SUBMISSION – ONLINE

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

You need to complete following sections in order to submit the application. Refer next section for more details on application form data. You can fill all the details initially and complete the payment at a later stage. However, the application is deemed to completed only after the payment. Details to be filled:

a) Personal Profile (Name, Address & Contact details)
b) Academic Profile (Marks of the qualifying examination & year, Last attended school)
c) Family Profile (Income details)
d) Academic Programme Preference – Academic Programme is a combination of both campus and branch to be updated prior to registration for counseling.
e) Mode of admission – AEEE / JEE
   1) AEEE 2019 : Choose Examination Center, Date and Slot
   2) JEE (Mains) 2019 : Enter the details as in JEE score card

f) Choice of city to attend AEEE 2019

g) JEE Mains 2019 details [as in score card] if opting through JEE mode.

The candidates are advised to have their own personal and valid email id. They are also advised to have a valid mobile number. The candidates are advised to retain the same mobile number and email-id they have furnished in the application form as the important updates may be informed to the candidates through SMS or e-mail or both.

Admit cards to attend AEEE 2019 shall be downloaded from the website as per schedule [refer Important Dates section]. Intimation in this regard is sent as SMS and email.

Amrita Vishwa Vidyapeetham neither verifies the data submitted by the candidates online nor verifies any certificate of category/educational qualification for deciding the eligibility of candidates prior to the examination. The certificates of educational qualification and category (if applied under reserved category) will be verified at the time of document verification process conducted as part of admission counselling. The candidates are, therefore, advised to ensure the validity of their eligibility and the category (if applying under reserved category) as entered in the application portal. The university will, in no way, be responsible for any wrong/incorrect information furnished by the candidate(s) in their online application form. Any letter/e-mails in this regard will not be entertained. Application may be rejected in case any false information is submitted.

Cost of Application (Registration for AEEE 2019): INR 1000 for candidates seeking admission through Amrita Entrance Examination – Engineering 2019 and INR 300 for candidates seeking admission based on the rank / score secured in JEE Mains 2019. Candidates need to pay only INR 1000 if they wish to secure admission through both AEEE 2019 rank and JEE Mains 2019 rank.

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

Post your payment queries in Query Management System to get a faster response.

Note: The test will be conducted in both the modes in Tamil Nadu only.

Candidates are allowed to submit only one application form. More than one application i.e. multiple applications from a candidate may get rejected.

The name of the candidate and his/her parents name in the application form **must exactly be the same** as registered in Class 12th/ equivalent qualifying Examination. Prefix/title such as Mr/Shri/Fr/Dr/Mrs/Smt/Col etc should not be used.

Candidates shall correct/modify some of the particular(s) of the application data, prior to the commencement of counselling. The candidates are advised to visit the website regularly to know the exact dates.

No request for change will be accepted through offline mode i.e. through fax/application including e-mail etc.

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

Candidate(s) may check the status of their application online in amrita.edu/btech website.

The jurisdiction to settle and decide all matters and disputes related to admission process is within Coimbatore.

The offer of admission shall be subject to the verification of original certificates/ documents as stipulated by Amrita Vishwa Vidyapeetham at the time of admission. If any candidate is found ineligible at a later date even after admission to an Institute, his/her admission will stand cancelled. The decision taken by Amrita Vishwa Vidyapeetham Admission Committee regarding the eligibility and offer of admission of any applicant shall be final.

All correspondence related to B.Tech Admissions should be addressed only to:
Chairman (B.Tech Admissions),
E-105, Admissions Office, Academic Block 1,Amrita Vishwa Vidyapeetham,
Amritanagar P.O., Ettimadai, Coimbatore – 641112.
Phone: 1800 425 90009 [Toll Free]
Email: btech@amrita.edu. For latest information related to B.Tech admissions, visit amrita.edu/btech.

APPLICATION FORM DATA

Personal Profile	
Fields	**Remarks**
Name as in the 10th class	Your name shall be entered as per the records of 10th class.
Date of Birth	Dd/mm/yyyy
Gender	Male / Female / Transgender
Category	OBC / MBC / SC / ST
Plus two state	State where you completed your +2
Mobile Number	Most of the communication will be through the mobile. Enter a valid mobile number
S/o, D/o	Son of / Daughter of
Name of Parent / Guardian	
City	
District	
State	
PIN	
Email ID	
Alternate Phone number	This will be used in case if the mobile number is not reachable
Photograph	File size must be less than the size mentioned in the application portal
Land line	
Academic Profile *[To be completed before the registration for counselling]*	
Aggregate PCM	Aggregate percentage of Physics, Chemistry & Mathematics
Physics marks	
Chemistry marks	
Mathematics marks	
Board	CBSE/STATE/OTHER/AICSE
School last studied	
State	
District	
City	
Year of Passing 10th	
Year of passing 12th	
Family Profile	
Family annual income	
How did you come to know about Amrita?	Newspaper / Facebook / Teachers / Alumni / Social Media / Other
Declaration	
Signature	According to the size mentioned in the online form
Campus & Branch Option Submission *[To be completed before the registration for counselling]*	

Option 1 to N (Campus & Branch)	
Exam Center	
Option 1 - Exam City	
Option 2 - Exam City	
Option 3 - Exam City	
Option 1 - Exam date	
Option 2 - Exam date	
Option 3 - Exam date	
Would you opt for Hostel?	
JEE Score *[To be completed before the registration for counselling]*	
JEE Registration number	
JEE Mains Rank	
JEE Score	
JEE Session (Jan / Apr)	
JEE Physics	
JEE Mathematics	
JEE Chemistry	

Academic Profile and JEE marks needs to be entered only after the publication of the results. It is not mandatory to fill the same before completing the application.

APPLICATION SUBMISSION – OFFLINE

Offline, OMR application forms can be procured from the University counter of Amrita Schools of Engineering at Amritapuri, Bengaluru, Coimbatore & Chennai on producing a demand draft for Rs. 1000/- in favour of Amrita School of Engineering, Payable at Coimbatore. It is important that those candidates who are purchasing offline application are required to send the application at the earliest. Applicants will receive an SMS with the link to fill the rest of the details to complete the application process. The data shall be filled on or before the last date of application submission.

ABOUT AMRITA ENTRANCE EXAMINATION – ENGINEERING 2019

Mode of Examination:
Amrita Entrance Examination – Engineering 2019 is conducted in two modes:
- Computer Based Test (CBT), on 5 days with 3 slots on each day.
- Pen & Paper Test (PPT), conducted only in Tamil Nadu, one slot on one day.

Both CBT and PPT are of 2 and half hour duration
Number of questions: Total 100, 30 each from Physics & Chemistry, 40 from Mathematics.

AEEE 2019 SYLLABUS, PATTERN AND EVALUATION

Syllabus
The syllabus is based on the subjects in Class 11th& Class 12th. The syllabus consists of three sections: Physics, Chemistry and Mathematics. The syllabus for AEEE-2019 is given in **Appendix – IV.**

All the questions are of Multiple Choice type. All questions will have four answers of equal weightage. 3 (three) marks are awarded for each correct answer and -1 (negative one) for each wrong answer.

Candidates can choose the most appropriate answer for each question in the Computer Based Test mode. Answers marked can be changed later, before the final submission of all the answers. Candidates can practice the test online through the link published in amrita.edu/btech.

Refer **'Important Dates'** section to see the schedule of admission activities.

In case a candidate, by furnishing the false information, appears in more than one slots/dates of the computer based examination or appears in both the modes of examination i.e. pen & paper based and computer based examination, his candidature will be cancelled and his result will not be declared.

Cities/Towns of AEEE 2019 Examination Centres

Candidates shall fill three choices of cities to attend AEEE - 2019. City names are listed in Appendix – I.

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 requests raised in this regard.

Use of Calculator and Communication Aids

Use of electronic devices like mobile phones, calculators etc. are **NOT PERMITTED** for AEEE 2019. Materials like log table, book, notebook, etc. should **NOT** be brought into the examination hall.

Number of questions and mark distribution:

Subject	No. of Questions	Marks
Mathematics	40	120
Physics	30	90
Chemistry	30	90
Total	100	300

EXAMINATION CITIES

The names of those cities in which CBT and PPT Examinations will be conducted are listed in **Appendix – I & II** respectively. Choose the city as listed in the online application to write the examination.

ALLOTMENT OF EXAMINATION CITY AND SLOT BOOKING FOR CBT CANDIDATES

A candidate appearing for CBT can submit three preferences from the list of cities in **Appendix – I**. Examination will be conducted in a centre in these cities, provided there are sufficient numbers of 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 three preferred cities, preferably the first preferred city. If exam cannot be conducted at the first preference of a candidate, he / she will be allotted to second / third preference as applicable. University will put all the 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, the candidates who have opted for that city will be allotted another nearest city and the same will be informed to the candidates by email.

The registered candidates can select "DATE AND TIME SLOT" of their choice, SUBJECT TO AVAILABILITY, by visiting the university website 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 finalized based on the number of candidates for a particular city.

CENTRE ALLOTMENT FOR CANDIDATES ATTENDING PPT

Pen and Paper Test is conducted in one slot only on 27th April 2019 (Saturday) from 10:00 AM to 12:30 PM. PPT applicants shall choose their two preferred city choices for exam centre. Every attempt will be made to allot the centre of first choice. In extreme cases, candidate may be allotted the city of second choice. If examination cannot be conducted in these two cities, candidate will be allotted to another city at the discretion of the university.

The address of the examination centre for a candidate will be mentioned in the Admit Card, which can be downloaded online. Request from a candidate for change of city allotted to him/her will NOT be entertained under any circumstances.

SLOT BOOKING

Candidates attending the Computer Based Test shall select date and slot of their choice, subject to availability. 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 web page www.amrita.edu/btech and follow the instructions given below:

a) Candidates can login using their Application Number and Date-of-Birth. In case of difficulty in logging in, open a ticket in the online query management system.

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 hence slot on that date. 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 to write the examination is generated only to those eligible candidates who have submitted their application form complete in all respects, on or before the last date specified. Photograph and signature image shall be uploaded on or before the last date.

1. Candidates can download the Admit Card by logging into their registered account using their registered Email ID / Application Number and Date of Birth.

2. Admit Card will not be sent by post. Visit "https://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.

3. Candidate will not be permitted to appear for the entrance examination without a valid Admit Card. In the examination hall, candidate should produce his/her Admit Card when demanded by the invigilator.

4. Admit Card is an important document and must be keep safe till the admission process is over.

GUIDELINES TO CANDIDATES ON EXAMINATION

COMPUTER BASED TEST
A sample/mock test is available on website for practice purpose and to give the candidate look and feel of the Computer Based Test (CBT).

ISSUE OF ADMIT CARD

Admit Card is issued provisionally to the candidate to attend the examination. 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 (amrita.edu/btech) for a faster resolution. 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.

All calculations/writing work are to be done only in the rough sheet provided at the centre and on completion of the test, **candidates must hand over the rough sheets to the invigilator on duty in the Room/Hall.** Candidates attending PPT shall use the 'Rough Work Space' in the question paper booklet for any rough work.

The candidates are governed by Rules and Regulations set by Amrita Vishwa Vidyapeetham, with regard to their conduct in the Examination Hall. All cases of unfair means will be dealt with as per rules.

The candidates must sign on the Attendance Sheet at the appropriate place.

A seat indicating respective roll number is allocated to each candidate. Candidate 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.

No candidate is allowed to carry any baggage inside the examination hall. University Representative will not be responsible for any belongings stolen or lost at the premises.

No candidate, under any circumstances, is allowed to attend examination 30 minutes after the commencement.

Candidates are not allowed to carry any textual material, Calculators, Docu Pen, Slide Rules, Log Tables, Electronic Watches with facilities of calculator, printed or written material, bits of papers, mobile phone, pager or any other device, except the Admit Card, identity proof, inside the Examination Room/Hall. If any candidate is in possession of any of the above items, his/her candidature will be treated as unfair means and his/her current examination will be cancelled & he/she will also be debarred for future examination(s) & the equipment will be seized.

Smoking and eating is strictly prohibited in the examination room.

Tea, coffee, cold drinks or snacks are not allowed to be taken into the examination rooms during examination hours.

Approach the hall invigilator in the room for any technical assistance, first aid emergency or any other information during the course of examination.

No candidate, without the special permission of the Centre Superintendent or the Invigilator concerned, will leave his/her seat or Examination Room until the full duration of the examination. Candidates must follow the instructions strictly as given by the Centre Superintendent/Invigilators.

The examination rooms/hall will be opened one hour before the commencement of the test. 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 in time, they are likely to miss some of the general instructions to be announced in the examination hall.

PEN & PAPER TEST [PPT]

Ten minutes before the commencement of the examination, each candidate will be given sealed Question Paper Booklet with an answer sheet placed inside it. Immediately on the receipt of the Question Paper

Booklet, the candidate will fill in the required particulars on the cover page of the Question Paper Booklet with **Ball Point Pen** only. He / She will not open the Question Paper Booklet until asked to do so by the invigilator. Do not open/break the seal before the announcement.

In case of toned / mutilated Question Paper Booklet and OMR sheet should be immediately returned to the invigilator for the replacement with another set of same series available in the examination hall/centre.

Five minutes before the commencement of the paper the candidate will be asked to break/open the seal of the Question Paper Booklet. In case of any discrepancy, the candidate should immediately report the matter to the Invigilator for replacement of both the Question Paper Booklet and the OMR answer sheet.

Candidates are required to fill the examination details on the OMR Sheet with **Ball Point Pen.** After completing this step, the candidates will wait for the instruction by the invigilator.

After opening the Question Paper Booklet by breaking the seal, the candidate will check that the question paper booklet contains as many numbers of pages as are printed on the top of the first page.

No candidate, under any circumstances, will be allowed to enter the examination hall 30 minutes after the commencement of the examination.

Candidates must follow the instructions strictly as instructed by the Centre Superintendent / Invigilators.

Candidates should not leave the room/hall without handing over their Answer Sheets to the invigilators on duty.

A signal will be given at the beginning of the examination and at half-time. A signal will also be given before the closing time when the candidate must stop marking the responses.

The candidates must sign on the Attendance Sheet, OMR Answer Sheet & Question Paper Booklet at the appropriate place.

The candidate shall not remove any page(s) from the Question Paper Booklet and if he/she is found to have removed any page(s) from his/her Question Paper Booklet, he/she will be presumed to have used unfair means and shall be liable for legal action.

Out of four answers given for each question, only one circle for the correct answer is to be darkened on the OMR Answer Sheet. Use Blue or Black Ball Point Pen to completely darken the appropriate circle, i.e. one circle for each entry. If two circles are darkened, evaluation may go wrong.

The answer once marked is not liable to be changed. So mark cautiously.

A light or faintly darkened circle is a wrong method of marking and liable to be rejected by the Optical Scanner. So, the circle should be properly darkened.

Rough work shall be done only in the rough space allotted in the Question Paper Booklet.

If the candidate does not want to attempt any question he/she should not darken the circle given against that question. Do not fold the Answer Sheet and do not make any stray marks on it.

CODE OF CONDUCT

The candidates are governed by all Rules and Regulations of the Board with regard to their conduct in the Examination Hall. All cases of unfair means will be dealt with as per 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.

Changing an answer to be made cautiously: The candidates must fully satisfy themselves about the accuracy of the answer before darkening the appropriate circle as no change in answer once marked is allowed. Use of eraser or white/correction fluid on the OMR answer sheet is not permissible as the OMR answer sheets are machine gradable and it may lead to wrong evaluation.

If more than one circle is darkened or if the response is marked in any other manner except the 'Correct Method' shown above, it shall be treated as wrong way of marking and ¼ (one fourth) marks i.e. **one mark** will be deducted for each question.

Prior to handing over the OMR Answer Sheet soon after the examination is over, the candidate must sign the attendance sheet as a proof.

P&P Examination is conducted from 10:00 AM to 12:30 PM.

SAMPLE OMR SHEET

AMRITA ENTRANCE EXAMINATION - ENGINEERING 2018

Answer Sheet No .

USE HB PENCIL OR BLACK INK BALL PEN FOR ANSWERS

A) INSTRUCTIONS

1. Use Black Ink Ball Pen for Writing in the boxes at 1, 2 and 3 below
2. Use HB Pencil or Black Ink Ball Pen for darkening the bubbles.

Examples

3. If your question booklet version code is C, write C in the box in item 2 using Ball Point Pen and darken the bubble 'C' with HB Pencil / Ball Point Pen.

Ⓐ Ⓑ ● Ⓓ

4. If the answer to Question No .7 is B, darken the bubble 'B' as below using HB Pencil / Ball Point Pen.

7. Ⓐ ● Ⓒ Ⓓ

3. Question Booklet No .

B) DATA PART

1. Registration No .

2. Question Booklet Version Code

Ⓐ Ⓑ Ⓒ Ⓓ

C) ANSWER PART

Q.No	Answers
1	Ⓐ Ⓑ Ⓒ Ⓓ
2	Ⓐ Ⓑ Ⓒ Ⓓ
3	Ⓐ Ⓑ Ⓒ Ⓓ
4	Ⓐ Ⓑ Ⓒ Ⓓ
5	Ⓐ Ⓑ Ⓒ Ⓓ
6	Ⓐ Ⓑ Ⓒ Ⓓ
7	Ⓐ Ⓑ Ⓒ Ⓓ
8	Ⓐ Ⓑ Ⓒ Ⓓ
9	Ⓐ Ⓑ Ⓒ Ⓓ
10	Ⓐ Ⓑ Ⓒ Ⓓ
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95	Ⓐ Ⓑ Ⓒ Ⓓ
96	Ⓐ Ⓑ Ⓒ Ⓓ
97	Ⓐ Ⓑ Ⓒ Ⓓ
98	Ⓐ Ⓑ Ⓒ Ⓓ
99	Ⓐ Ⓑ Ⓒ Ⓓ
100	Ⓐ Ⓑ Ⓒ Ⓓ

(Use Ball Point Pen for Writing Signature and Name)

4. Signature of the Candidate

Name :

Entries of Registration No ., Question Booklet No ., Question Booklet Version Code, Signature of the Candidate and Name are verified by me and found correct.

5. Signature of the Invigilator :

Name :

Counselling, Seat Allocation & Admission

Following policies and procedures are guidelines to candidates. Final policies will be posted in the website by April 2019.

General Policies:

Candidates are offered admission to an academic programme based on their academic preferences and based on All India Ranks / Score of JEE (Mains) – 2019 or based on the rank secured in AEEE 2019, as preferred by the candidate, through a common Seat Allocation Process for all the five engineering campuses.

Counselling involves Registration for counselling by paying counselling charges, academic preference submissions, Allotment of Seat, Acceptance of Seat Offered, Payment of Fees and Verification of Documents.

Seat allocation is done separately for candidates with AEEE 2019 rank and JEE Mains 2019 rank / score. Candidates are advised to regularly visit the website for frequent updates on the counselling process. University may admit an AEEE 2019 candidate having a good score in JEE Mains 2019, if he/she gets a better option of academic preference.

All the registered candidates will receive the notification on the counselling by email. The same will be published in the website also.

1. **Programmes, Campuses**
   - Amaravati[*] – ECE, CSE, ME, EEE, CE [to be announced]
   - Amritapuri – ECE, CSE, ME, EEE
   - Bengaluru – ECE, CSE, ME, EEE, EIE
   - Chennai – ECE, CSE, ME, EEE, CE
   - Coimbatore – ECE, CSE, ME, EEE, CE, EIE, CHE, AE

2. **Academic Programme – to be submitted prior to registration for counselling**
   - Campus + Programme. *Example: Amritapuri + ECE*

   ([*]proposed campus, branches to be confirmed)

3. **Candidate Category:**
   - SC / ST
   - General

4. **Conditions to allot seat:**
   - Category – At the time of automated seat allotment, the category (SC/ST/OBC/General) is considered.
   - Quota – A certain percentage of seats in each campus, each branch is earmarked for the states where the campuses are located. More details are mentioned in the next section.
   - Rank / Score – Rank scored by the candidate in Amrita Entrance Examination – Engineering 2019 / Score in JEE Mains 2019.
   - Vacancy in an academic preference opted by the candidate.
   - Eligibility is important. If the candidate is not able to satisfy the eligibility requirements after the seat allotment and acceptance, admission will stand cancelled.

5. **State Quota [determined at the time of application submission]**
   'State Quota' means the state from which the candidate has passed the qualifying examination. The codes of the states are as in the Information Handbook. State quota eligibility does NOT depend on

the native place or the place of residence of the candidate. *For example, if a candidate appears for the Class XII examination in Tamil Nadu and is a resident of NOIDA, Uttar Pradesh, the candidate's state code of eligibility Tamil Nadu and NOT Uttar Pradesh.*

If a candidate has passed the qualifying examination from one state but appeared for improvement from another state, the candidate's state code of eligibility will be from where the candidate first passed the qualifying examination and NOT the state from where the candidate has appeared for improvement.

Seats in each academic programme is divided into different category & quota.

Category means SC / ST / OBC / MBC / OC / General.

Open / State Quota is automatically determined by the software based on the plus two state as entered by the candidate in the application.

Open Quota: A candidate who has successfully completed the qualifying examination from any state outside the state where Amrita Schools of Engineering campus is located, falls under Open Quota for that campus. Candidates who fall under 'Other' category are considered as Open Quota candidates for all the campuses.

Campuses	Candidates from following states belongs to below quota for the campuses mentioned in the left			
	Andhra Pradesh	**Karnataka**	**Kerala**	**Tamil Nadu**
Amaravati	State	Open	Open	Open
Amritapuri	Open	Open	State	Open
Bengaluru	Open	State	Open	Open
Chennai	Open	Open	Open	State
Coimbatore	Open	Open	Open	State

Phase 1 – Registration for Counselling

8. Counseling is done separately for each 'Category' – SC / ST & General based on the rank. Seats are earmarked for SC/ST category as per the university norms.

9. Registration for counselling will start after few days of the publication of AEEE 2019 rank list. Any candidate who has secured a rank is eligible to participate in counselling process. Registration for counselling for JEE Mains 2019 candidates will also start after few days of the publication of JEE Mains 2019 results. Dates are announced in advance in the website and candidates are notified by email.

10. Registering for counselling doesn't guarantee a seat or admission. Counseling fee is refunded if the seat is not allotted because of non-availability of the seat.

11. Personal information and data for communication will be open to edit/update till the last date of the option submission. Email and Mobile Number is used as the medium of communication till the end of admission process. Following are important:
    a. Name shall be as per the qualifying examination records.
    b. Date of Birth shall be valid and meet the eligibility as mentioned in the Information Handbook for B.Tech Admissions 2019.
    c. Category shall be entered correctly to avail the reservation during the seat allocation.
    d. Mistake in +2 state entry may lead to losing of the desired academic programme.
    e. Marks to meet the eligibility & criteria requirement.
    f. State Quota Eligibility

12. Software locks the academic preferences automatically after the last date.

Phase 2 – Seat Allotment & Acceptance of the offer

13. Seat is allotted according to the rank / score, seat availability in the academic preferences as submitted by the candidate. Allotment is done two days after the last date of registration for counselling. A trial allotment is made before the actual allotment.

14. Admission confirmed and completed only after the document verification process, to ensure that the candidate meets all the eligibility requirements as stated in the information handbook. Candidates are required to produce the following documents in original in order to complete the document verification process:
    a) Provisional Seat Allotment Order downloaded from the portal.
    b) Letter of Seat Acceptance downloaded from the portal.
    c) 10th Class Marks Statement
    d) HSC / 12th class Examination Admit Card
    e) HSC / 12th class Marks Statement
    f) Amrita Entrance Examination – Engineering 2019 Admit Card (With Signature of Invigilator) or JEE Mains 2019 Score Card
    g) Community Certificate** (SC / ST / BC / MBC / OBC)
    h) Transfer Certificate# and Conduct Certificate from the Institution where candidate studied 12th Class
    * Photostat copies **will not be accepted** as proof of any data / information
    ** If the community certificate is in a language other than English, an English version certified by Notary Public should be attached.
    #If TC is not issued so far, a letter from the Principal to this effect is to be submitted stating the name of the Higher Secondary School and the State where the candidate had studied 12th class to prove State Eligibility.

15. After accepting the offer & paying the tuition fee and if the candidate fails to submit the original certificates at the time of document verification, seat already allotted is cancelled and amount paid is refunded after processing charges.

16. Candidates shall pay the tuition fees as per the date mentioned in the Provisional Seat Allotment to confirm the seat failing by which the seat is allotted to the next eligible candidate.

17. Candidates can download the Provisional Seat Allotment Order after making the payment.

18. There are various phases of allotment to fill the vacant seats. Candidates are considered for sliding towards an academic preference of higher choice only if the fees is paid.

19. Sliding option: Candidates can choose the allotment as Final / Sliding / Transfer.
    a. Final – Candidate is satisfied with the allotment and no more changes required.
    b. Sliding – Candidate is interested in changing the branch within the same institute in the second allotment.
    c. Waiting List – those who couldn't get the seat in first allotment and wish to be considered for the next allotment.

20. Seat already allotted in the one allotment is forfeited if the sliding / transfer happens towards a new branch in the subsequent allotments.

21. **Sliding option is considered only if the fees is paid.**

22. Rules and regulations are same for all the allotments.

23. Withdrawal is permitted till the closing date of the admissions. Refund policies are as per the government rules. Candidates who have withdrawn may not be considered for further seat allocation.

24. Due to revision of marks, if a candidate becomes ineligible because of not satisfying the "Performance in Class XII (or equivalent) examination" requirement, then the candidate will be made ineligible at the time of seat acceptance / document verification, or even at a later stage. If a candidate satisfies the "Performance in Class XII (or equivalent) examination" requirement and becomes eligible for admission due to revision of marks, then such a candidate has to approach the preferred campus with the revised marks sheet. The candidate will be allocated a seat in subsequent rounds. The allocated seat shall be the same as what the candidate would have got on the basis of revised marks to begin with.

25. After making the payment, candidates are required to upload the plus two marks certificate / statement & transfer certificate and community certificate in the case of SC/ST category. Original copies of this uploaded document shall be produced at the time of document verification, at the reporting center on the date allotted to each candidate. The final process in the confirmation of seat is the document verification process. Candidate shall attend the document verification process along with the parent or guardian.

26. During the process of document verification, if the mismatch between the document uploaded in the registration site and produced by the candidate is found to be due to wilful forgery / act of cheating, offer of admission will stand cancelled and the candidate is debarred from further rounds of seat allocation.

Final process of counselling will be published in the website before the examinations in the last week of April.

FEE STRUCTURE

Tuition Fees

Scholarship	AMRITAPURI		BENGALURU		COIMBATORE		CHENNAI	
	Scholarship Seats	Fees	Scholarship Seats	Fees	Scholarship Seats	Fees	Scholarship Seats	Fees
90%	27	24,000	27	26,000	51	30,000	15	30,000
75%	27	60,000	27	65,000	51	75,000	15	75,000
50%	54	1,20,000	54	1,30,000	102	1,50,000	30	1,50,000
Fee for remaining seats								
	351	2,40,000	351	2,60,000	663	3,00,000	240	3,00,000
Refundable Caution deposit (above fee is exclusive) at all campuses Rs. 10,000/-.								
Fees is to be paid annually.								
Scholarship is awarded in the rank order and reimbursed after the last date of admissions.								

Hostel & Mess*

Head	Term	AMRITAPURI	BENGALURU	CHENNAI, COIMBATORE
Room Rent + Establishment Charges	Annual	24,000	36,000	40,000
Mess Charges	Annual	39,900	44,000	47,000
Caution Deposit	One Time	5000	5000	5000
Total		**68,900**	**85,000**	**92,000**

*Subject to change

Fees for Amaravati campus to be published in the website prior to counselling.

SCHOLARSHIP

Scholarship is awarded as fee waiver for first year, based on the rank scored in the examination. Candidate has to score minimum CGPA as per the university rules in order to earn the fee waiver in the subsequent years. Scholarship amount is reimbursed in September after the last date of admissions.

WITHDRAWAL RULES

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

IMPORTANT DATES

October 19th 2018: Commencement of Online Application Submission

April 5th 2019: Commencement of slot booking for CBT

April 10th 2019: Application submission, slot booking closes for CBT

April 25th 2019: Application submission closes for PPT

April 22nd to 26th, 2019: CBT – 3 slots each of 2.5 hrs duration

April 27th 2019: Pen & Paper Test – one slot of 2.5 hrs duration (10:00 to 12:30 hrs)

May 5th 2019: Publication of AEEE Results

Following dates are only tentative. The dates may vary based on the dates of publication of CBSE, State Board and JEE Mains 2019 final rank list.

May 5th to 8th 2019: Option open to submit / change the academic preference & profile data. No more change in data is allowed after the 8th of May. Candidates are required to enter the JEE Score on or before May 8th 2019.

May 10th 2019: Trial Allotment, clarification of doubts, etc. This is for both the modes - AEEE and JEE.

May 20th 2019: Last date to pay the fees for candidates satisfied with the first allotment.

May 25th 2019: Second Allotment: Allotment to those who opted for sliding and those who are below the last rank in the first allotment.

May 30th 2019: Last date to pay the fees for candidates satisfied with second allotment.

June 5th 2019: Third Allotment: Allotment to those who opted for sliding and those who are below the last rank in the second allotment.

June 10th 2019: Last date to pay the fees for candidates satisfied with the branches allotted in the third allotment. Candidates shall update their +2 marks in the application portal on or before June 10th.

June 15th to June 25th 2019: Verification of documents & filling the vacant seats. Candidates who have paid the fees shall produce the qualifying examination documents in original in order to complete the admission requirements. Candidates are required to appear at the campus as per the allotment.

APPENDIX1 : EXAMINATION CITIES FOR COMPUTER BASED TEST (CBT)

State	City
ANDAMAN & NICOBAR ISLANDS	Port Blair
ANDHRA PRADESH	Anantapur
	Guntur

	Kakinada
	Kurnool
	Nellore
	Tadepalligudem
	Tirupati
	Vijayawada
	Visakhapatnam
ASSAM	Guwahati
BIHAR	Patna
	Muzaffarpur
CHANDIGARH	Chandigarh
CHHATTISGARH	Bhilai
	Raipur
DELHI	Delhi
GOA	Goa (Panaji)
GUJARAT	Ahmedabad
	Rajkot
	Surat
	Vadodara
HARYANA	Gurgaon
	Hisar
HIMACHAL PRADESH	Shimla
JHARKHAND	Dhanbad
	Jamshedpur
	Ranchi
KARNATAKA	Bengaluru
	Davangere
	Hubli
	Mangalore
	Mysore
	Raichur
	Shimoga
	Udupi
KERALA	Alappuzha
	Amritapuri
	Kalpetta
	Kannur
	Kasaragod
	Kochi
	Kollam
	Kottayam
	Kozhikode
	Malappuram
	Palakkad
	Pathanamthitta
	Thiruvananthapuram
	Thodupuzha
	Thrissur
MADHYA PRADESH	Bhopal
	Gwalior

	Indore
	Jabalpur
MAHARASHTRA	Aurangabad
	Mumbai
	Nagpur
	Nasik
	Pune
	Thane
ODISHA	Bhubaneswar
PUNJAB	Amritsar
RAJASTHAN	Jaipur
	Jodhpur
	Kota
	Udaipur
TAMIL NADU	Chennai
	Coimbatore
	Cuddalore
	Dindigul
	Erode
	Hosur
	Karur
	Kancheepuram
	Madurai
	Nagercoil
	Namakkal
	Ooty
	Pollachi
	Puducherry
	Pudukkottai
	Salem
	Thanjavur
	Thiruvannamalai
	Tirunelveli
	Tiruppur
	Trichy
	Tuticorin
	Vellore
TELANGANA	Hyderabad
	Khammam
	Warangal
UTTAR PRADESH	Agra
	Allahabad
	Kanpur
	Lucknow
	Noida
	Varanasi
UTTARAKHAND	Dehradun
WEST BENGAL	Durgapur
	Kolkata

APPENDIX 2 : EXAMINATION CITIES FOR PEN & PAPER TEST (PPT)

City	
Chennai	Nagercoil
Coimbatore	Namakkal
Cuddalore	Pudukkottai
Dindigul	Salem
Erode	Thanjavur
Hosur	Tuticorin
Karur	Vellore
Madurai	

APPENDIX 3 : LIST OF STATES / UNION TERRITORIES

State	Code
Andhra Pradesh	10
Arunachal Pradesh	11
Assam	12
Bihar	13
Chhattisgarh	14
Goa	15
Gujarat	16
Haryana	17
Himachal Pradesh	18
Jammu and Kashmir	19
Jharkhand	20
Karnataka	21
Kerala & Mahe	22
Madhya Pradesh	23
Maharashtra	24
Manipur	25
Meghalaya	26
Mizoram	27
Nagaland	28
Odisha	29
Punjab	30
Rajasthan	31
Sikkim	32
Tamil Nadu & Puducherry (UT)	33
Telangana	34
Tripura	35
Uttar Pradesh	36
Uttarakhand	37
West Bengal	38
UNION TERRITORIES	
Andaman and Nicobar Islands	39
Chandigarh	40
Dadra and Nagar Haveli	41
Daman and Diu	42
Delhi	43

| Lakshadweep | 44 |
| Countries other than India | 50 |

APPENDIX 4 : SYLLABUS FOR AEEE 2019

MATHEMATICS

Unit 1: COMPLEX NUMBERS: Complex numbers in the form a+ib and their representation in a plane. Argand diagram. Algebra of complex numbers, Modulus and argument (or amplitude) of a complex number, square root of a complex number. Cube roots of unity, triangle inequality.

Unit 2: PERMUTATIONS AND COMBINATIONS: Fundamental principle of counting; Permutation as an arrangement and combination as selection, simple applications.

Unit 3: BINOMIAL THEOREM: Binomial theorem for positive integral indices. General and middle terms in binomial expansions, simple applications.

SEQUENCES AND SERIES

Arithmetic, Geometric and Harmonic progressions. Insertion of Arithmetic, Geometric and Harmonic means between two given numbers. Relation between A.M., G.M. and H.M. Special series $\sum n$, $\sum n2$, $\sum n3$.Arithmetico-Geometric Series, Exponential and Logarithmic Series.

Unit 4: 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 5: 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 6: 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 7: MEASURES OF CENTRAL TENDENCY AND DISPERSION: 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 8: PROBABILITY: Probability of an event, addition and multiplication theorems of probability and their applications; Conditional probability; Bayes' theorem, Probability distribution of a random variate; Binomial and Poisson distributions and their properties.

Unit 9: DIFFERENTIAL CALCULUS: 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 normals, Rolle's and Langrage's Mean Value Theorems.

Unit 10: 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 11: 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 12: TWO-DIMENSIONAL 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 13: 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 .Equations of internal and external bisectors of angles between two lines, equation of family lines passing through the point of intersection of two lines, homogeneous equation of second degree in x and y, angle between pair of lines through the origin, combined equation of the bisectors of the angles between a pair of lines, condition for the general second degree equation to represent a pair of lines, point of intersections and angles between two lines.

Unit 14: 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 and condition for a line to be tangent, equation of a family of circles through the intersection of two circles, condition for two intersecting circles to be orthogonal.

Unit 15: 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 16: 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 17: 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 (ii) two planes (iii) a line and a plane. Distance of a point from a plane.

PHYSICS

Unit 1: Units and dimensions
Units for measurement, system of units, SI, fundamental and derived units, dimensional analysis.

Unit 2: Mechanics

Motion in one-dimension, uniform and non-uniform motion, uniformly accelerated motion; Scalars and Vectors, resolution of Vectors, vector properties. Motion in a plane, projectile motion, Uniform circular motion.

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, center 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 3: 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;Bernouli's theorem and applications; viscosity, Stoke's law, terminal velocity

Unit 4: 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; Types of oscillations – free, damped, maintained and forced oscillations and Resonance.

Wave Motion: Properties of waves**;** Transverse and longitudinal waves; Superposition of waves, Progressive and Standing waves; Vibration of strings and air columns, beats, Doppler Effect.

Unit 5: 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, Kirchoff's law, Stafan's law and Wein's law, thermodynamic equilibrium, internal energy; zeroth, first and second law of thermodynamics, thermodynamic processes, Carnot cycle, efficiency of heat engines, refrigerator

Unit 6: 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, Van de Graaff Generator.

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, potentiometer.

Heating effects of current: Electric power; concept of thermoelectricity – Seebeck effect and thermocouple, chemical effect of current – Faraday's laws of electrolysis.

Magnetic effects: Oersted's experiment, 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.

Magnetostatistics: 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 7: 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 8: Ray and Wave Optics

Ray Optics and optical instruments: Reflection and refractionof light by plane 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 9: 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; intrinsic semiconductor, extrinsic semiconductor, p-n junction, semiconductor diode, junction diode as a rectifier, junction transistor, transistor as an amplifier.

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 - S-block and hydrogen: Hydrogen, isotopes, liquid hydrogen as fuel, alkali metals, oxides and hydroxides, extraction and properties of lithium, sodium and potassium. Group 2 elements and their properties.

UNIT 5 - 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 6 - 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 7 - Solid state: Solids - amorphous and crystalline, classification of crystalline - unit cell, Miller indices - packing efficiency, unit cell dimensions, crystal structure, ionic crystals, imperfections in solids, electric and magnetic properties.

UNIT 8 - Coordination compounds: Terminology in coordination- isomerism, Werner, VBT, CFT theories - Bio-coordination compounds.

UNIT 9 - Gaseous State & Surface chemistry: Gaseous state and gas laws, deviation- van der Waal's constants - Joule-Thomson effect - liquefaction of gases, theory of catalysis, colloids and emulsions.

UNIT 10 - Colligative properties: Lowering of vapour pressure, Depression of freezing point, Elevation in boiling point, Osmotic pressure, abnormality - dissociation and association

UNIT 11 – 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 12 -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 13 - Chemical and Ionic Equilibria: Law of chemical equilibrium, homogenous and heterogeneous equilibrium, Le Chatlier's principle, equilibrium constants, factors affecting- Ionic equilibrium, ionization of acids and bases, buffer solutions, pH -solubility of sparingly soluble salts

UNIT 14 - 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 15 - Basic Organic chemistry: Classification, functional groups, nomenclature and isomerism, types of organic reactions, mechanism, purification, qualitative and quantitative analysis carbocation, carbanion and free radical, electron displacement in covalent bond.

UNIT 16 - Hydrocarbons & Polymers: IUPAC nomenclature, alkanes –alkynes – aromatic hydrocarbons- nomenclature, preparation, physical and chemical properties uses. Polymerization – types, molecular mass, biodegradable and commercial polymers.

UNIT 17 - 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 18 - Stereochemistry and Organic nitrogen compounds: Preparation - properties and uses of Aliphatic and aromatic nitro compounds --aliphatic and aromatic amines, nitriles, Diazonium salts. – 1°, 2°, and 3° amines – distinction - Optical activity.

UNIT 19 - 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 20 - Biomolecules and Environmental chemistry: Carbohydrates, proteins, amino acids - enzymes, vitamins and nucleic acids - lipids. Pollution.- air, water and soil - industrial waste, acid rain, greenhouse effect, global warming, Strategies to control pollution.

Online Practice Test for JEE / AEEE Aspirants Powered by Amrita School of Engineering

We all know that digitisation is reaching the student community very fast. As you know, test for JEE conducted by NTA is going fully online from 2019. It is always good to get practiced with the computer based test. Here are some of the advantages of Computer Based Test:

- **Choosing the date and time of exam**: In Computer Based Test, one can choose the date and time according to their flexibility and schedule. In Pen and Paper Test, one may have to travel miles to reach a particular exam centre at a city on a particular date.
- **Time**: In the Computer Based Test the time of the exam will be pre-settle in the system. So one can complete the exam in time.
- **Seamless navigation across questions**: Unlike PPT, you can easily visit the questions on single click.
- **Change the answer already marked**: Questions once answered can later be changed in a matter of click. In an OMR type of examination, you cannot change the answer if you feel it is wrong. Especially when you use pen to write the examination. You can change the answer by rubbing it if you are using pencil to mark the answer. In case of CBT, you can change it after a review. This is one of the important advantages of CBT over PPT.
- **Review the questions**: In all the models of Computer Based Test, you will find that you can mark a question 'to Review'. This means that the screen will have the list of question numbers you wish to review later. That helps you to go through the answers once again and change if you feel it is not appropriate.
- **Mistakes**: Any mistake can be reverted in the case of CBT, whereas in PPT it may not be possible. Like changing the answers after marking them, writing of registration number, etc.
- **No pencil, eraser, pen**: If you are not using the OMR cautiously, it may get damaged. Damage can be caused because of the ink of pen, sharpness of the pencil, etc. Even if you want to erase an answer, it may affect the adjacent answer.
- **Environment friendly**: There is no wastage of paper as it is fully digital.

The School of Engineering, Amrita Vishwa Vidyapeetham, is hosting a free testing platform for you to get acquainted with the Computer Based Test. We will schedule the tests periodically and intimate you by way of email and SMS. After the test, you will know the score in each subject so that you can start preparing accordingly. Please note that the questions for each test may vary as the questions are selected by the software from a pool.

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