



# BHARATI VIDYAPEETH

(Deemed to be University)  
Pune, India.

Accredited with 'A+' Grade (2017) by NAAC  
'A' Grade University Status by MHRD, Govt. of India  
Accredited (2004) & Reaccredited (2011) with 'A' Grade by NAAC



## B.TECH.- 2018

For Admission to the Bachelor of Technology Courses  
At

**Bharati Vidyapeeth**  
(Deemed to be University)  
Pune, India

COLLEGE OF ENGINEERING, PUNE-43  
([www.bvucoepune.edu.in](http://www.bvucoepune.edu.in))



Estd. 1964  
**Celebrating**  
  
**and Beyond**  
**BHARATI VIDYAPEETH**  
Founder Hon'ble Dr. Patangrao Kadam



As the Chancellor of Bharati Vidyapeeth (Deemed to be University) I extend a very warm welcome to the students who are desirous of seeking admission in our different Constituent units.

Bharati Vidyapeeth, the parent organization of this University has recently celebrated its Golden Jubilee. Five decades ago Bharati Vidyapeeth initiated its academic journey with a single school. Now it is one of the premier educational institutions in the country, having under its umbrella more than 180 educational units including 80 colleges of 12 faculties. They include colleges of Medicine, Dentistry, Engineering, Pharmacy, Hotel Management and the like. There may not be any disciplines either conventional or emerging for which Bharati Vidyapeeth has not established its institution.

Within a short period of 20 years or so, Bharati Vidyapeeth (Deemed to be University) has established its academic reputation even across the national borders. Its high level of academic excellence is underscored by the fact that the Ministry of Human Resource Development, Government of India has given 'A' grade status to this University. The University's another remarkable achievement is that it has been awarded a

prestigious 'A' grade by the NAAC both in its first accreditation and also in reaccreditation. An approval by the UGC under Section 12B of its Act which our University has received is another feather in the cap of the University.

We at this University are committed to offer our students a wide spectrum of academic options to choose from.

It has also been our endeavour to provide continuously updated education in a congenial environment to our students. I am very happy that a very large number of our past students have established their reputation as Medical Practitioners, Engineers, Pharmacy Industrialists and the like, not only at the national level but also at the international level. Research is a focal area of activities of our University. We have three Research Institutes as constituent units of University. They are doing remarkable work. Our aim is to develop this University ultimately as a Research University.

I again welcome you all and wish you a very successful academic career as students of this University.



Dr. Patangrao Kadam

# Chancellor's Message



**Hon'ble Dr. Patangrao Kadam**

M.A., LL.B., Ph.D.

FOUNDER - CHANCELLOR  
Bharati Vidyapeeth  
(Deemed to be University),  
Pune India

Dear Students,

At the outset, let me welcome all of you who are intending to join our University.

I am extremely happy to note that you have selected our University for your further studies. All of you know that Bharati Vidyapeeth (Deemed to be University) is one of the leading Universities in the country having 'A' grade awarded by Ministry of Human Resource Development, Government of India.

It is accredited with 'A+' grade in 2017 by NAAC, Bangalore. It is also significant to note that some of its constituent units have ISO 2001-2009 certification. Our University has excellent infrastructure for all its constituent Institutions such as well-structured spacious buildings, continuously updated laboratories and hostels with all necessary amenities and facilities.

Today, the horizons of knowledge are expanding exponentially. It is, therefore, a challenge to cope up with this vibrant system of higher education and Bharati Vidyapeeth (Deemed to be University) is well-equipped to impart latest training and education to its students. We are committed to provide excellent teaching, learning and research under our 12 faculties. The University continuously updates the courses of studies being taught in our constituent Institutions, keeping in view, the rapid changes and dynamism around. Our libraries are continuously updated.

The University ensures not only high quality training, education in the respective areas of knowledge to the students, but also places emphasis on all-round development of the students. Abundant opportunities are also provided for co-curricular and extracurricular activities on the campus. In the discharge of its social obligations, the University is, no doubt, committed to see that the students graduating from this University are well-trained and well-prepared for jobs and become responsible citizens of the country.

The track record of the achievements of the University is indeed commendable. It is a matter of pride for us that scores of our students have achieved successes in their respective fields and established themselves in different spheres of life. We are aware that the success of any University largely depends on the number of successful students. It produces for the service of the society and the nation.

We, therefore, take every care for your bright future career and help you to translate your dreams into reality.

Once again, I take this opportunity to welcome all of you to the family of Bharati Vidyapeeth (Deemed to be University) and wish you success in your life.



Prof. Dr. Shivajirao Kadam

# Pro-Chancellor's Message



Prof. Dr. Shivajirao Kadam  
PRO-CHANCELLOR  
Bharati Vidyapeeth  
(Deemed to be University),  
Pune India

It is a matter of immense pleasure for me to be a part of the Bharati Vidyapeeth (Deemed to be University) family as its Vice Chancellor. I take this opportunity of welcoming new students joining the College of Engineering as well as the Faculty of Management Studies in undergraduate as well as postgraduate programmes. Most of such students move away from the folds of their family and need to feel that they are just moving away from one family fold to another. Their teachers seniors and peers, all form an extended family from whom they can look up for any guidance support and help to move ahead in life as professionals in the study programmes they have opted.

The College of Engineering offers graduate, post graduate programmes and Doctoral programmes. The college has earned its reputation owing to its excellent infrastructure as well as qualified faculty. In terms of credentials, the College of Engineering is one of the few institutes in the country which has Programmes accredited by National Board of Accreditation (NBA) twice and application for the third cycle of accreditation is underway. This is the only institute selected by MHRD for its Technical Education Quality Improvement Programme (TEQIP-II- 1.1 Programme) for the grant of Rs. 4 Crores.

Like any other area of science, engineering technology is also going through rapid changes. As far as high quality engineering education is concerned in such an ever-changing area, an institution needs to keep itself always updated through course curriculum, laboratories resources and most importantly faculty. We have a team of qualified, experienced & dedicating teaching faculty in the faculty of management Studies for constant updation of syllabi. The respective departments are supported by equally dedicated qualified laboratory staff.

Under the Faculty of Management Studies, we have courses taught at our Management Schools located in Pune, Sangli, Solapur, Kolhapur, Karad and New Delhi. Also we have an Institute for Hotel Management and Catering Technology in Pune. We have a continuous process of updation of syllabi, as far as high quality Management education is concerned. In order to impart education, Liaison with industry in the form of industrial visits, students training,

expert lectures and arranging of seminars & workshops are an integral part of our educational program.

The colleges have a well designed building and other well equipped infrastructural requirements with state-of-the-art facilities. Our curriculum goes through regular revisions to incorporate new developments for imparting the course contents and knowledge beyond syllabus given in the University curriculum. Ours is a multi campus university with multi disciplinary approach. We produce graduates to become future leaders in industry, academia, government and the society. Through a good blend of course work and projects, the departments endow students with the ability to apply knowledge in multidisciplinary teams, provide leadership and technical expertise, and practice their professions with ethical approaches and concern for society and environment. We have a team of qualified, experienced & dedicated teaching faculty for constant updation of syllabi. Research is an inclusive part of the teaching and our faculty members publish research papers in indexed journals of repute with impact factor. Active interaction of learners with faculty and other academicians & professionals in the field provide exposure by way of seminars, workshops etc.

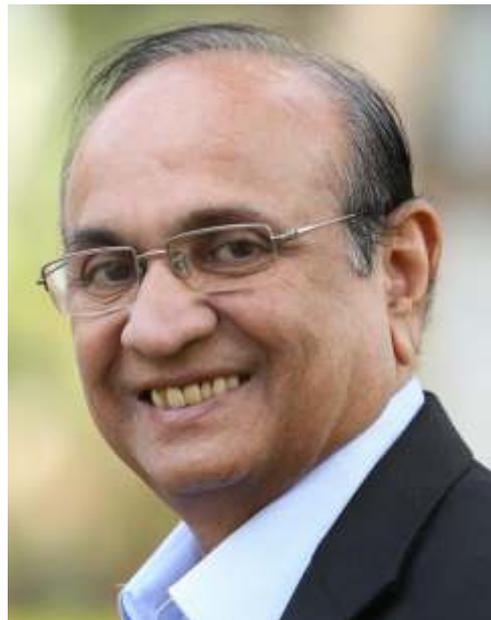
The campus is ICT enabled and the colleges provide an e-learning and e-connect environment, along with class coordination system, document management system as well as virtual class rooms. The university is situated in a serene environment. The serenity along with a complex structure of curricular, co- curricular and extra- curricular activities will shape your physical, mental and intellectual growth. As a student of Management /Engineering, you are the torch bearers of latest technology. You have the responsibility of developing an environmentally and socially sustainable society.

I, wish and assure you, on behalf of the university family, that we will help you pursue your objectives of life under the varied social, cultural and economic environment and make the University family proud of your attainments.



Prof. Dr. Manikrao Salunkhe

# Vice Chancellor's Message



Prof. Dr. Manikrao Salunkhe  
VICE CHANCELLOR  
Bharati Vidyapeeth  
(Deemed to be University),  
Pune India





# Bharati Vidyapeeth (Deemed to be University), Pune, India.

## Important Dates

A	Last date for submission of online application form	21 <sup>st</sup> May 2018 Up to 17.00 hrs at <a href="http://www.bvuniversity.edu.in">www.bvuniversity.edu.in</a>
B	Date and time of Entrance Test (Written)	27 <sup>th</sup> May 2018 From 11.00 to 14.00 hrs
C	Entrance Test Centres	Pune, New Delhi, Navi Mumbai, Hyderabad, Vadodara, Indore, Lucknow, Bangalore, Jaipur, Varanasi, Chandigarh
D	Date of declaration of Merit List <a href="http://www.bvuniversity.edu.in">www.bvuniversity.edu.in</a>	04 <sup>th</sup> June 2018 after 5.00 p.m.

E Counselling and on the spot admission Merit no. above 5001 should see University/ College website for vacancy status

Date	Candidates called for Counselling	Time
Regular Category		
18-6-2018	Merit No. 1 to 500	9.30 a.m. onwards
	Merit No. 501 to 1000	1.30 p.m. onwards
19-6-2018	Merit No. 1001 to 1500	9.30 a.m. onwards
	Merit No. 1501 to 2000	1.30 p.m. onwards
20-6-2018	Merit No. 2001 to 2500	9.30 a.m. onwards
	Merit No. 2501 to 3000	1.30 p.m. onwards
21-6-2018	Merit No. 3001 to 3500	9.30 a.m. onwards
	Merit No. 3501 to 4000	1.30 p.m. onwards
22-6-2018	Merit No. 4001 to 5000	10.00 a.m. onwards

Foreign / NRI / PIO / OCI / Institutional Quota Merit Category		
23-06-18	Merit No. 001 to 140	10.00 a.m. onwards

Date	Candidates called for Counselling	Time
Regular Category		
25-6-2018	Merit No. 5001 to 6000	10.00 a.m. onwards
26-6-2018	Merit No. 6001 to 7000	10.00 a.m. onwards
27-6-2018	Merit No. 7001 to 8000	10.00 a.m. onwards

Counseling location :  
Bharati Vidyapeeth  
(Deemed to be University),  
Pune, India  
College of Engineering, Pune  
Pune Satara Road, Dhankawadi, Pune 43.  
Tel. No. : 020 24107390/24107391  
Fax No. : 020 24372998  
Website : [bvucoepune.edu.in](http://bvucoepune.edu.in)  
Email : [info@bvucoep.edu.in](mailto:info@bvucoep.edu.in)

F Commencement of classes

4<sup>th</sup> July 2018

## Examination Centers

PUNE

NEW DELHI

NAVI MUMBAI

HYDERABAD

VADODARA

INDORE

LUCKNOW

BANGALORE

JAIPUR

VARANASI

CHANDIGARH



[www.bvuniversity.edu.in](http://www.bvuniversity.edu.in)

Visit [www.bvucoepune.edu.in](http://www.bvucoepune.edu.in) for latest information and admission updates & vacancy positions during counselling period.





**BHARATI VIDYAPEETH  
UNIVERSITY**

**COLLEGE O**

# Bharati Vidyapeeth (Deemed to be University), Pune, India

Bharati Vidyapeeth, the parent organization of this University is one of the largest educational organizations in the country. It has 180 educational units under its umbrella including 80 Colleges and Institutes of conventional and professional disciplines..

The Department of Human Resource Development, Government of India on the recommendations of the University Grants Commission accorded the status of "Deemed to be University" initially to a cluster of 12 units of Bharati Vidyapeeth. Subsequently, 17 additional colleges / institutes were brought within the ambit of Bharati Vidyapeeth (Deemed to be University) wide various notifications of the Government of India. Bharati Vidyapeeth (Deemed to be University) commenced its functioning on 26<sup>th</sup> April, 1996.



## Constituent Units of : Bharati Vidyapeeth (Deemed to be University) Pune, India

1. Medical College, Pune.
2. Dental College & Hospital, Pune
3. College of Ayurved, Pune
4. Homoeopathic Medical College, Pune
5. College of Nursing, Pune
6. Yashwantrao Mohite College of Arts, Science & Commerce, Pune.
7. New Law College, Pune
8. Social Sciences Centre (M.S.W.), Pune
9. Yashwantrao Chavan Institute of Social Science Studies & Research, Pune.
10. Centre for Research & Development in Pharmaceutical Sciences & Applied Chemistry, Pune
11. College of Physical Education, Pune.
12. Institute of Environment Education & Research, Pune
13. Institute of Management & Entrepreneurship Development, Pune
14. Poona College of Pharmacy, Pune
15. College of Engineering, Pune
16. Interactive Research School in Health Affairs (IRSHA), Pune
17. Rajiv Gandhi Institute of Information Technology & Biotechnology, Pune
18. College of Architecture, Pune
19. Abhijit Kadam Institute of Management & Social Sciences, Solapur
20. Institute of Management, Kolhapur
21. Institute of Management & Rural Development administration, Sangli
22. Institute of Management & Research, New Delhi
23. Institute of Hotel Management & Catering Technology, Pune
24. Yashwantrao Mohite Institute of Management, Malakapur-Karad
25. Medical College & Hospital, Sangli
26. Dental College & Hospital, Mumbai
27. Dental College & Hospital, Sangli
28. College of Nursing, Sangli
29. College of Nursing, Navi Mumbai

The status of University was given to a cluster of these colleges and institutes in appreciation of the high level of their academic excellence and for their potential for further growth.

During the last 20 years or so, the University has achieved higher pinnacles of academic excellence and has established its reputation to such an extent that it attracts students not only from various parts of India but also from abroad. According to a survey conducted by Association of Indian Universities, this University is one among the top ten Universities in the country preferred by the overseas students for admissions. At present, there are more than 602 overseas students from 45 countries on the rolls of constituent units of this University.

During the last 20 years, there has been tremendous academic expansion of the University. It now conducts in all 282 courses in its constituent units, of them 108 are Post Graduate, 40 are Under Graduate and 40 Diploma level and 11 are PG Diploma level courses. 3 Fellowship. All the professional courses which the University conducts such as those of Medicine, Dentistry, Engineering etc., have approval of the respective statutory councils, viz., Medical Council of India, Dental Council of India, All India Council for Technical Education etc.

The University is a throbbing center of research activities and has launched Ph.D. programmes in 77 subjects and M.Phil in 3 subjects. It has also introduced quite few innovative academic programmes such as Masters in Clinical Optometry, M.Tech. in Nano Technology etc.

The University's performance and achievements were assessed by the "National Assessment and Accreditation Council" and Accredited A+ Grade in its third cycle in 2017 (Accredited to A Grade in 2004 and 2011). Some programmes of the constituent units such as College of Engineering at Pune, Management Institute in Delhi and others have also been accredited by "National Board of Accreditation". Three constituent units of Bharati Vidyapeeth (Deemed to be University) are also the recipients of ISO 9001-2001 certifications.

In 2017, in the assessment under National Institutional Ranking Framework (NIRF), its constituents units- Poona College of Pharmacy, Pune is figured at 8<sup>th</sup> place, College of Engineering, Pune at 66<sup>th</sup> place and Institute of Management and Entrepreneurship Development, Pune at 40<sup>th</sup> place at the national level.

## Distinct Features of : Bharati Vidyapeeth (Deemed to be University) Pune, India

### This University

- is one of the largest Deemed Universities in the country established u/s. 3 of the UGC Act, 1956;
- is a multi-faculty University offering a variety of courses in 12 faculties namely Faculty of Arts, Social Sciences and Commerce; Faculty of Science; Faculty of Law; Faculty of Medical Sciences; Faculty of Dentistry; Faculty of Ayurveda; Faculty of Homoeopathy; Faculty of Nursing; Faculty of Pharmaceutical Sciences; Faculty of Management Studies; Faculty of Engineering & Technology and Faculty of Interdisciplinary Studies
- is accredited by the NAAC with 'A' + Grade
- is accredited and reaccredited by the NAAC with prestigious 'A' grade.
- is probably the only University of its kind in the country having three self-financing Research Institutes devoted exclusively to the researches respectively in Health Related Sciences, Pharmaceutical Sciences and Social Sciences.
- has the distinction of getting recognition from the University Grants Commission u/s. 12 (B) of its act;
- is a University, which is academically and intellectually very productive. Its faculty members have a very laudable track record of research, publications and patents;
- has created a special fund to provide research seed money to its faculty members;
- has digitalized the libraries of its constituent units and which makes an extensive use of modern Information and Communication Technology in teaching, learning and research and also in administration;
- publishes its own scientific Journal. Besides, two of its Management Education Institutes publish their own academic journals which have gained recognition in the core academic circles;
- has established linkages with more than 50 national and international reputed academic institutions, such as North Carolina A & T University (USA), University of Cologne, (Germany), Liverpool Law School, (UK), Kingston University (UK), Pioneer Research Centre for Nano-grid Materials, Pusan National University, Busan (South Korea), Deakin University (Australia), Salford University (Australia), Oxford Brookes University (UK) and several others;
- has several colleges of health related sciences such as Medicine, Dentistry, Ayurved, Homoeopathy, Nursing, Audiology & Speech Language Pathology, Optometry in one campus (Pune). This has facilitated introduction of interdisciplinary courses and research.
- IRSHA, its health related Sciences Research Institute has done a good path breaking research work on Omega 3 Fatty Acids and has taken a lead in encouraging farmers to cultivated flax seeds which are major source of Omega 3 Fatty Acids.
- Its Institute of Environment Studies & Research Education has adopted several primary schools, wherein it implements its programmes of creating environmental consciousness among the students. Its work has received national level applaud.
- is a throbbing centre of academic activities and has organized several national and international level seminars, conferences, workshops, etc.
- runs a School of Performing Arts, wherein graduate and postgraduate programmes in various Performing Arts including dance, music etc., are conducted in the traditional Gurukul system.

## Campuses

Bharati Vidyapeeth (Deemed to be University) has campuses in Pune, Mumbai, Solapur, Kolhapur, Sangli, Karad and New Delhi, the capital city of India. Bharati Vidyapeeth (Deemed to be University) Pune, India has two campuses in Pune, one on Pune-Satara Road and another at Erandwane. The College of Engineering is located at Pune-Satara Road



# Bharati Vidyapeeth (Deemed to be University), Pune, India. College of Engineering, Pune

Bharati Vidyapeeth (Deemed to be University) Pune, India College of Engineering, Pune (BVUCOE) established in 1983, a constituent unit of BVDU (University with 'A' Grade status by MHRD, accredited to Grade 'A+' by NAAC in 2017 and 'A' Grade 2004 & 2011) and holds a place of pride and is amongst the most reputed institute. It has been ranked to 66<sup>th</sup> by National Institutional Ranking Framework (NIRF) with criteriawise ranking as 87<sup>th</sup> in Graduate Outcome (GO), 31<sup>st</sup> in Outreach and Inclusivity (OI), 60<sup>th</sup> in Teaching Learning Resources (TLR) and 25<sup>th</sup> in Perception (PR). This also made institute to stand 4<sup>th</sup> in the State of Maharashtra. Further, DATAQUEST-CMR national survey also ranked this institute to 4<sup>th</sup> among private technical institutions of India, 33<sup>rd</sup> by Times of India and 45<sup>th</sup> by OUTLOOK. This is the only institute selected by MHRD for its Technical Education Quality Improvement Programme (TEQIP-II – 1.1 Programme) for the grant of Rs. 4 Crores.

*(For details regarding infrastructural facilities, resources available and other activities conducted at the institute are available on its website.)*



## INFRASTRUCTURE

BVDUCOE, Pune offers 09 graduate, 08 post graduates programmes and Doctoral programmes in 08 disciplines. All Programmes are accredited by National Board of Accreditation (NBA) twice and we have applied for third cycle of accreditation. Institute has its own spacious well designed building measuring 26,286 sq. m. and it houses 101 labs, 43 class rooms, and 21 tutorial rooms.

The library of the institute is a five storied building and houses periodical section, computer center, reading hall, reference section. It contains more than 60,000 books, 15,000 volumes, 80 national and 81 international journals subscription and digital library facility. Digital library of institute with 66,944 number of journals in e-form is one of the richest source of knowledge in e-form for students and faculty members. The Library, Laboratories, Equipments, Learning resources and Software constantly get upgraded and updated in tune with the changing time. An Investment of Rs.119.95 million is made in the last five years.

## FACULTY

The structured faculty development programme has strengthened quality of Teaching - Learning Process in the institute. 35 faculty members with Ph. D. qualifications have been proved as resources for research, innovations and sound Teaching – Learning Process. As a part of quality improvement programme 04 number faculty members were deputed to International Universities, Institutions of national importance such as IIT, NIT etc. for qualification improvement. Team of 206 faculty members with average experience 11.7 years and average age 38.3 years indicates teachers with fine blend of experience and youth. Faculty members are well conversant and trained for use of latest softwares and latest equipments being purchased every year as policy of upgrading laboratories.

Institute organized 138 number of continuing education programmes in last five years to keep sharpen skills of faculty members. Further, 1389 faculty members were deputed to attend various workshops and training programmes for sharing and enhancing their knowledge. Faculty members also play active role in curriculum development as Member of Board of Studies of various subjects and other statutory bodies of the University.

## RESEARCH

The research quality is indicative of the university penchant for quality. The research publications in reputed international and national refereed journals and conferences have shown a steady and significant rise over the years which is aptly reflected by 1091 Research papers publications in reputed national and international journals in last five years. Grant of Rs. 152.73 Lakhs from funding agencies such as UGC, DST, DRDO, AICTE etc. fetched by faculty members is strong indicator of research aptitude of faculty members. Seed money up to Rs. 3 lakhs under Institutionally Funded Research Programme (IFRP) nurtures research aptitude of faculty members. 575 number of publications in standard research databases such as SCOPUS, Web of Science, Google Scholar etc. in last five years throws light on quality of publications by faculty members of this institute. These publications by faculty members have received 137 number of citations in the same period. Institute has 02 patents to its credit and filed 05 patents.

## COLLABORATION

The institute has collaboration with international universities such as North Carolina A & T State University, Greensboro, USA, Joint School of Nanoscience and Nanoengineering (JSNN), USA, The University of Tokushima, Japan, ARM University, USA and with industries such as TCS, SKF India Ltd. Every year one faculty member is deputed for Ph. D. programme in NCAT with scholarship. Students of M. Tech. (Nanotechnology) joins JSNN, USA to pursue their dissertation research work for six months with scholarship to the tune of \$1000 per month. Further, NCAT, USA, The University of Tokushima, Japan contributes intellectually as well as financially to organize biannual international conference NANOCON. Three editions of NANOCON are conducted since 2010 with their association. In association with Eduvance & GAATsis, a “ Center of Excellence in Embedded Systems” is established in the Institute with donation of Educational kits like ARM development boards from ARM University Program and PSoC kits by Cypress Semiconductors are used for developing projects in the sponsored laboratory. TCS supports students and faculty members for faculty enablement programmes and student development programme. Establishment of Lubricant

collaboration with SKF India Ltd.

Being (Deemed to be University) college takes advantage of academic autonomy in making the curriculum industry oriented and enable students to make employable. In-plant training (45 days), courses such as Professional Skill Development introduced as integrated part of course structure. In-plant training enable students to interact within their associated industries for gaining practical field experience and professional exposure. Curriculum is Choice Based Credit System which makes students path of joining international universities for their higher studies smoother.

Today, qualitative soft skill development in students is more pertinent to a student's professional career. The institute regularly arranges training programme in the area of personality development, aptitude test, group discussion and personal interview. Through its Employment Enhancement Programme (EEP) designed for third year students which comprises

of communication skill quantities analysis, corporate culture, IT Training and soft skills. This programme is conducted in association with professional institutes of national repute for effective execution and implementation. To enhance their professional experience and get them head start in the industry, an innovative programme is initiated on student mentoring "Saturday @ BV", wherein speakers are entrepreneurs and high ranked corporate who share their experiences, hardship and their corporate journey.

In it's long, multi-pronged, persistent and pain staking efforts for producing quality engineering professionals, institute has produced more than 1068 entrepreneurs.



## ACCREDITATION & RECOGNITION

66<sup>th</sup> Ranking by NIRF, MHRD, GOI

4<sup>th</sup> Ranking by DATAQUEST-CMR

33<sup>rd</sup> Ranking by Times of India

45<sup>th</sup> Ranking by Outlook

Selected Institute under TEQIP by MHRD, GOI, Pune

Programmes Accredited by NBA

Constituent Unit of BVU which has 'A' Grade university status by MHRD, GOI (2012), Pune and Accredited to Grade 'A+' by NAAC in 2017 and Grade 'A' (2004 & 2011)

Life Institutional membership of 'The Institution of Engineers, (India) Kolkata.



**Bharati Vidyapeeth**  
(Deemed to be University),  
Pune (India)  
College of Engineering, Pune



**Recognition, Accreditation & Ranking**



**nirf** NATIONAL INSTITUTIONAL  
RANKING FRAMEWORK

**66<sup>th</sup>**  
at  
National  
Level

**7<sup>th</sup>**  
in  
Maharashtra  
Level

**87<sup>th</sup>**  
Rank  
Graduation  
Outcome  
(GO)

**nirf**  
Criteriawise  
Ranking

**25<sup>th</sup>**  
Rank  
Perception  
(PR)

**31<sup>st</sup>**  
Rank  
Outreach &  
Inclusivity  
(OI)

**60<sup>th</sup>**  
Rank  
Teaching-  
Learning  
& Resources  
(TLR)

**DATAQUEST**



THE TIMES OF INDIA

**33<sup>rd</sup>**  
Rank

**OUTLOOK**

**45<sup>th</sup>**  
Rank

## Infrastructural Facilities

Over the years, the college has created excellent infrastructural facilities in terms of well equipped laboratories and workshops.

Laboratories are housed in spacious halls and they have the latest state-of-the-art equipment. The College allocates enough funding to update its laboratories. Computer laboratories that are well equipped with the latest machines and various types of softwares and application development tools. Further, softwares required in the respective fields are also available in the respective departments.

### LIBRARY

Selected valuable books recommended by the experts in the relevant fields are available in the Reference Section, whereas the students are allowed to issue some books and take them home. The library subscribes to well-known journals, periodicals and e-journals especially in the fields of science, technology and current affairs.

The library has a spacious reading hall, open for sixteen hours a day, enabling the students, especially the hostellers, to study with concentration in a pleasant environment. The college has membership of internationally reputed organizations such as Developing Library Network (DELNET), British Council Library, Automotive Research Association of India, National Chemical Laboratory, Indian Institute of Technology, Bombay, etc. The Library subscribes to 80 international journals and 85 national journals. More than 55,000 books are in stock at present and more are being added every year.



## Library

Details	Number
▪ Volumes	69170
▪ Titles	19200
▪ International Journals	71
▪ National Journals	85
▪ Periodicals	19
▪ Books in Departmental Libraries	4510
Book Bank	1486

## Digital Library

Subscription through AICTE Consortium Springer Link

▪ e-Journals	1,300
▪ Resources: IEEE, ASME, ELSEVIER ASCE, McGraw Hill References, ASTM Digital library, Springer, J-Gate, Delnet etc.	
▪ e-Books (IET) & Videeya E-Books	1289
▪ Subscription through DELNET	
▪ Union Catalogue of Books	2,28,45,202
▪ Union list of current periodicals	37847
▪ Union Catalogue of periodicals	20,235

▪ Database of periodical articles	9,22,042
▪ CD-ROM database	22234
▪ Database of Thesis & Dissertations	70293
▪ Union list of video recordings	6000
▪ Union list of sound recordings	748
▪ Database of e-Books	1,613
▪ D-Space	
▪ Knowledge hub : A virtual Library	

## COMPUTER CENTER

Computer Center is established in the Library with 135 computers of latest configuration and leased line of one mbps. The center is made available to the students for 18 hrs. a day under the supervision of specially appointed computer system administrator.

## HOSTELS

Bharati Vidyapeeth provides excellent hostel facilities to its students. It includes seven girls and two boys hostels with a total capacity to accommodate over 1200 students. Students seeking admissions to the hostel in a prescribed form. Admissions to hostel are given on the first come first serve basis.



# Departments

## DEPARTMENT OF CHEMICAL ENGINEERING

(Accredited by NBA\*)

The Department of Chemical Engineering offers undergraduate, postgraduate and doctorate degree courses. The department offer a broad spectrum of educational and research opportunities supported by state-of- the-art facilities. The curriculum is designed along with participants from the industry. The department also organize expert lectures for students, by inviting experienced leaders from the industry. At the end of the third year, each student is sent for a six weeks internship at various companies across India to gain hands-on experience and receive on-the-job training in the industry. When the students return for the final year, they are better prepared to graduate and face the challenges offered by the outside world. Upon graduation, the 'Bharati Chemical Engineer' has received well-rounded education, exposure to live research projects and an extensive industry internship. This in-depth training ensure that our students hit-the-ground-running when they join the industry.

Chemical Engineering involves the design, erection, commissioning, and maintenance of the processes incorporating chemical or biological transformations for large scale manufacture. It has wide applications in industries like dyestuff, pharmaceuticals, fertilizer, food, speciality chemicals, paints, steel, etc. Chemical Engineers play a vital role in various emerging areas with special references to Nanotechnology / Science, Green Energy, Water, etc.

The scope for individual engineers in the field of chemical engineering is bound to grow with time. This is mainly because of rapid industrial growth and also scarcity of related resources which are necessary for the future. Chemical engineers will be needed to develop alternative technologies for those resources which will be depleted in the near future.

Total Research Grants Received from Academic Year 2004-05 to 2016-17: Rs.141.01 Lacs

- Bio-processing of bio-fuel. Research grant worth Rs. 35 lacks has been received from DST-INSPIRE.
- Membrane based separation. Research grant worth Rs. 1.2 lacks has been received from Bharati Vidyapeeth (Deemed to be University), Pune.
- Design and development of solid - liquid circulating fluidized bed. Research grant worth Rs. 30 lacks has been received from DST-SERB.
- Process development and intemsification. Research grant worth Rs. 5 lacks has been received under TEQIP-II
- Development of continuous fixed bed adsorption column for the removal of fluoride and trace organics from ground water. Research grant worth Rs. 5.75 lacs has been received by AICTE under Research Promotion Scheme.
- Phase equilibrium studies to generate Vapour Liquid Equilibrium data for multi component system. Research grant worth Rs. 10.5 lacs has been received by AICTE under Career Award for Young Teachers.
- Developing ultrasound cavitation based techniques for degradation of organic pollutants. Bharati Vidyapeeth (Deemed to be University) has given a grant of 2.66 lacs for establishing this facility.
- Studies of adsorption of gases ,specially CO<sub>2</sub> using innovative absorbents. Research grant worth Rs. 5.45 lacs has been received by AICTE under Research Promotion Scheme.
- Research grant worth Rs. 2.98 Lacs received under TEQIP II for the project entitled Photocatalytic and sonophotocatalytic degradation of organic pollutants under visible light
- Research grant worth Rs. 2.99 Lacs received under TEQIP II for the project entitled Biobutanol: Valuurization of agricultural waste to biofuel
- Research grant worth Rs. 36.50 Lacs received under DST Nanomission for the entitled Project Charged Graphite nanplatlets anchored ultrafiltration membranes for heavy metal separation.
- Research grant worth Rs. 2.98 Lacs received under TEQIP II for the project entitled studies in waste water treatment with reference to advanced oxidation processes

\* Programme accredited by National Board of Accreditation (NBA) twice and applied for third cycle of accreditation.

Research Publications from Academic Year 2012-13 to 2016-17:

Type of Publication	No. of publications
International Journal	78
National Journal	09
International Conference	06
National Conference	02
Total	79

Research Facilities Developed

- The four new laboratories have been developed in the department viz. (i) Multiphase reaction engineering, (ii) Bioprocess Engineering, (iii) Waste water treatment and (iv) Membrane separation. The major equipment in the laboratories, to name a few, are as follows:

1. Solid liquid circulating fluidized bed.
2. Ultrasound processor.
3. Hydrodynamic cavitations set-up.
4. Set-up for phase equilibrium studies of multi-component systems.
5. Porous membranes casting and water flux analysis unit.
6. CO<sub>2</sub> adsorption unit.
7. Laminar air flow.
8. Industrial microwave
9. Autoclave
10. Bubble cap distillation column.

#### A. Laboratories

The department has seven major laboratories. All the laboratories are upgraded with new advanced equipments.

The details are as below:

##### Heat Transfer Laboratory

1. Shell and tube heat exchanger
2. Parallel & counter flow double pipe heat exchanger
3. Film wise & drop wise condensation apparatus
4. Lagged pipe apparatus
5. Heat transfer from pin fin apparatus
6. Heat transfer in natural convection experimental setup
7. Heat transfer in forced convection experimental setup
8. Stefan boltzmann apparatus
9. Thermal conductivity of metal rod experimental setup
10. Finned tube heat exchanger

##### Mass Transfer Laboratory

1. Bubble cap distillation column
2. Absorption of CO<sub>2</sub>
3. Solid liquid extraction
4. Steam distillation
5. York scheible column
6. Wetted wall column
7. Ion exchange
8. Simple distillation
9. Humidification and dehumidification
10. Cooling Tower

##### Chemical Reaction Engineering

1. Continuous stirred tank reactor (CSTR)
2. Plug flow reactor (PFR).
3. Three CSTR in series.
4. Packed bed reactors
5. CSTR-PFR in series
6. Autoclave
7. Industrial Microwave (for synthesis)

##### Process Dynamic & Instrumentation Control

1. Pressure Control Trainer
2. Ratio & Cascade control system Trainer
3. Temperature Controller
4. Bimetallic Thermometer
5. On-Off Controller
6. U-tube manometer
7. Thermocouple

##### Mechanical Operation Laboratory

1. Fluidized bed
2. Cyclone separator
3. Jaw crusher
4. Ball mill
5. Plate & Frame filter Press.
6. Stokes law apparatus.

##### Software Laboratory

- |                    |                 |
|--------------------|-----------------|
| 1. ANSYS FLUENT    | 2. CHEMKIN      |
| 3. CHEMCAD         | 4. MATLAB       |
| 5. TK SOLVER       | 6. AUTOCAD 2002 |
| 7. ORIGIN LAB - 15 |                 |

## DEPARTMENT OF CIVIL ENGINEERING

(Accredited by NBA)\*

The Department of Civil Engineering offers undergraduate, postgraduate and doctorate degree courses. The department possesses qualified faculty, state-of-the-art infrastructure and its own library. As a part of the infrastructure, the department laboratories are equipped with modern equipment and are capable of conducting research projects and provide consultancy to the industry. The well-equipped hi-tech computer lab provides students with a hands-on experience of the industry relevant softwares that are part of their curriculum. The curriculum is kept up-to-date and relevant by involving industry experts in the revision process. The department has a very active student association which is managed by the students. This association organizes events, expert lectures, site visits and personality development programs every year. The association also publishes a newsletter every Year. All students complete a six week internship before their final year. For their internship they are sent to various companies across India for on-the-job training in various technical roles.

The Department of Civil Engineering is honing the potential of the students to face the challenges in this vast field. The department also runs a postgraduate course in Hydraulic Engineering, for which it receives the guidance from internationally recognized scientists in the field of Hydraulics. The P. G. Students perform their dissertation works in collaboration with CW & PRS Laboratories, Government of India - especially the model studies.

Civil engineering is a professional engineering discipline that deals with the design, construction, and maintenance of the physical and naturally built environment, including works like roads, bridges, canals, dams, and buildings. Civil engineering is the oldest engineering discipline after military engineering. Due to extensive growth in the construction, infrastructure and real estate sectors in India, the demand of civil engineers is high. Career opportunities for these professionals are available with firms of both the private and public sectors. Besides this, job opportunities are obtainable

for them abroad too. Civil Engineers can pursue a very lucrative career.

Major Topics of Research Undertaken:

- Studies in the areas of sediment transport and fluid mechanics related to non uniform sediments, hydraulic design of spillways and design of permeable spurs.
- Structural Engineering: Studies of earthquake resistant structures and composite materials, nano concrete, bacterial concrete.
- Geotechnical Engineering: Utilization of waste plastics in road sub base.
- Environmental Engineering: Use of Moringa Olifera as a coagulant for treatment of potable water.
- Universal Testing Machine with Computer attachment.

Research Facilities Developed:

- Modernization of Environment Engineering laboratory to carry out research related to water quality management and air pollution control. For this purpose AICTE has provided grant of Rs. 6,00,000/- under MODROBS scheme.
- In Hydraulics Engineering Laboratory, tilting flume and wind tunnel facilities are established.

Total Research Grants received from Academic Year 2004-05 to 2016-17 : Rs. 16.25 Lacs

Research Publications from Academic Year 2012-13 to 2016-17 :

Type of Publication	No. of Publications
■ International Journal	52
■ National Journal	01
■ International Conference	02
■ National Conference	00
Total	55

### Consultancy:

Testing and Consultancy in the areas of Geotechnical Engineering, Structural Engineering and Environmental Engineering is carried out. Total revenue generated in last five years is Rs. 16 lacs.

### Major Groups / Areas

- Hydraulic Engineering
- Computer Aided Analysis and Design Engineering
- Structural Engineering
- Surveying
- Engineering Geology
- Concrete Technology
- Environmental Engineering; Foundation
- Project feasibility

### Expertise in Research and Consultancy

- Pump Testing
- Testing of Concrete, Building materials and Metals for Structures
- Water quality
- Precision Survey works
- Air & noise pollution
- Geological Investigation for Civil Engineering Structures
- Analysis and Design; Concrete Composites
- Hydraulic Modeling

### Laboratories

- Testing of Materials
- Geotechnical & Transportation Engineering
- Surveying
- Hydraulic Machinery
- Engineering Mechanics
- Environmental Engineering
- Fluid Mechanics
- Engineering Geology
- Computer

### Major Equipments

- Universal Testing Machine (1000KN & 200KN) with computer attachment
- Concrete Mixer
- Polariscope
- Tilting Flume - 10m & 20m
- Standard Penetration Tests set up
- High Volume Sampler with PM 10
- Nephelo Turbidity meter
- Noise Level Meter
- Total Station
- Compression Testing Machine (2000KN)
- Torsion Testing Machine
- Wind Tunnel
- Airflow Bench
- Electronic Distance Meter
- Spectrophotometer, Automatic Compactor
- Flame Photometer, Benkelman Beam Apparatus
- Computerised Triaxial Shear Test

### Softwares

- Auto CAD 2000
- Geo-Concept GIS
- Hit-Office
- E - tabs
- STAAD-PRO
- MATLAB
- M. S. Project
- Auto Scan and Auto Steel

## DEPARTMENT OF COMPUTER ENGINEERING

(Accredited by NBA)\*

Computer Engineering offers a wide variety of thought evoking, exciting work including research, design and development of hardware and software as well as the electronic or software components that comprise typical computers systems. Wherever there are computers, there are well playing jobs for computer engineers. The field of computer engineering is regularly moving advancing, providing rational challenges and evolving new knowledge on an almost daily basis.

Department of Computer Engineering syndicate the thoroughness of science, power of engineering, and the ecstasy of innovation, empowering students to change the world.

The Department of Computer Engineering offers undergraduate and postgraduate degree courses. As technology develops in leaps and bounds, the opportunities for expanding the field of computing grow even more rapidly. The Computer Engineering course gives a sound grounding in the fundamentals of computing along with an understanding of the underlying engineering principles. The Department has forged a path of innovation in research and teaching in the field of computing technologies at both the undergraduate and graduate levels. Research in the department crosses traditional boundaries and projects spring from shared interests more than from established groups. The faculty conducts the research along with doctoral, graduate, and undergraduate students.

The students pursuing this program will develop relevant skillsets in tandem with a proficient education. It's an amalgamation that will enable the students to master all facets of computer systems, including design, programming and operations. While in the program, the students will nurture as a frontrunner in the computer engineering grounds by developing cutting edge technical skills and receiving hands on experience. Computer Engineering Graduates go on to have successful careers in industry, governments and graduate studies. Graduates of this program can choose to

focus their career in many different ways like entrepreneur, web applications, Computer Graphics, Computer games, Enterprise computing, embedded systems, Network administration, mobile application, Computer Security, Computational biology, high performance Computing, Scientific modelling, Database systems, Artificial Intelligence, Big Data and so on.

Core Subjects: Software Engineering, Computer graphics and Visualization, Data structures, Microprocessors and Microcontrollers, Automata theory, Computer networks, Database Management System, Programming labs, Operating System, Computer organisation and Architecture, Big Data analytics.

Research Work Undertaken:

1. Design software testing laboratory using functional point analysis and test point analysis (SRGM) for reducing the maintaining cost. Research Grant Agency: BVDU , Amount: Rs.40,000/-
2. Utilizing video compression and decompression algorithm on video rendering during upload and download time using J2ME RMI. Research Grant Agency: BVDU , Amount: Rs.33,000/-
3. Active Storage Framework: Leveraging processing capabilities of embedded storage array.

Ongoing Research work

1. Analysis and Design of software reliability growth model concurrence with software development life cycle. Research Grant Agency: UGC , Amount: Rs.11,85,000/-
2. Development and Evaluation of scheduling algorithms to customise the scheduler with its application to mobile operating system.
3. Analysis and Design of various cluster based summarization techniques to designing and development of cluster based query specific text summarization methodology.
4. Adaptive Software Process improvements for distributed multimodal Systems.

Total Grants received from Academic Year 2012-2013: Rs. 12,58,000/- Lakhs.

Research Publication from 2012:

Type of Publication	No. of Publications
International Journals	245
International Conferences	28
National Conferences	09
Total	282

Domain Areas:

- Internet of Things (IoT),
- Big Data,
- Network and Data Securing,
- Computer Graphics,
- Enterprise Computing and Storage Systems.
- Embedded systems,
- Network administration,
- Mobile application,
- Computer Security,
- Computational Biology,
- High performance computing,
- Scientific modelling,
- Database systems,
- Artificial Intelligence

Laboratories:

- Software Engineering
- Operating System
- Database Management System
- Programming Lab I
- Programming Lab II
- Networking Lab
- Microprocessor and Microcontroller
- Computer graphics
- System Software Lab
- Virtualisation Lab
- High performance Computing Lab

Major Equipment's:

- ? 1 IBM X3650 M4 Server with 4TB Storage and 192 GB RAM, Intel Xeon processor.
- ? 1 IBM X3650 M4 Server with 600GB Storage and 192 GB RAM, Intel Xeon processor.
- ? Labs equipped with Systems Configuration.
- ? Lenovo TWR Intel H81, Intel Core i5 with 500 GB Storage and 4GB RAM.
- ? Intel Core i3 with 500 GB Storage and 4GB RAM.
- ? UPS Backup for the department.

SOFTWARE -

Operating System:

- ? Linux – Ubuntu, Centos,
- ? Windows – XP, 7, 8.1, 10
- ? Hypervisor – ESXI, Vsphere 6.0

RDBMS:

- ? Oracle 9i, 11g, 12c
- ? Microsoft SQL Server
- ? MySQL

Developing Software: MS Visual Studio 2010, Turbo C++, TASM, Matlab, NETSIM, Eclipse, Netbeans, Notepad++, Edisim Simulator, Rational Rose Enterprise Edition, IBM Rational Software Architect, R Studio, WEKA

Web Designing Software: Adobe Photoshop, Corel Draw, Axure.

General Software: MS office 2013, Vmware Vsphere Client, adobe acrobat XI, MS project 2010.



## DEPARTMENT OF ELECTRICAL ENGINEERING

(Accrediated by NBA)\*

Modern life cannot continue without electricity. Electricity is the single largest source of power for all kinds of machines used around the world. Electrical engineering is a field of engineering that generally deals with the study and application of electricity, electronics and electromagnetism. The field first became an identifiable occupation in the late nineteenth century after commercialization of the electric telegraph and electrical power supply. It now covers a range of subtopics including power, electronics, control systems, signal processing and telecommunications.

Opportunities for electrical engineers nationally and internationally are, Installation testing, Maintenance include research, higher studies, design, production, technical sales, power, water, railways & defense.

Major Topics of Research Undertaken:

- Development of Micro Controller based traffic control using nail arrangement. This research work was funded by Institution of Engineers India (IEI) and grant worth Rs. 0.25 lac was received.
- Development of Energy audit system and electricity cost reduction program and their implementation to High Tension Consumers.
- Establishment of Microprocessor based phasor group testing of three phase transformer. This research work was funded by Mahati Electrics Pvt. Ltd., India and grant worth Rs.0.2 lacs was received.
- Study of dynamic behavior of the double fed induction generator used in wind power applications under Ind fault condition. This research work was funded under the funding of TEQIP phase II and grant worth Rs. 2.98 lacs was received.
- Smart grid with cloud computing This research work has

funded under the funding of TEQIP - II. Grant worth Rs. 2.77 Lacs was received.

- Analysis of dual sator cage rotor induction motor. This research work is funded by B.V.U. & grant of worth Rs. 0.30 Lacs and 2.98 lacs under TEQIP II received
- Ball milling m/c for ultra Capacitor. This research work is funded of B.V.U. & grant of worth Rs. 0.36 Lacs was received.
- Study of suitability of different generator and its power quality analysis for wind power application. Research work is funded under TEQIP II and grant of Rs. 2.97 lacs Received.
- Development of ultra capacitor besed electrical vehical system. This research work was under TEQIP II and grant of Rs. 2.99 Lacs was received.
- Cmputational facility of department is developed by purchasing new software tools like ETAP-12.6.5 & Ansys Maxwel.

Research Facilities Developed:

- A complete hardware solution for e-learning compatible system was developed using a grant worth Rs. 5.00 lacs by AICTE (MODROBS).
- L & T has sponsored and established the entire lab of Switchgears and protection systems

Total Research Grants Received from Academic Year 2004-05 to 2016-17 : Rs. 20.775 Lacs

Research Publications from Academic Year 2012-13 to 2016-17:

Type of Publication	No. of publications
■ International Journal	107
■ National Journal	08
■ International Conference	32
■ National Conference	09
Total	156

### Major Groups / Area

- Electrical Power System.
- SCADA and Automation, Computer Applications in Power Systems.
- Electrical Control Systems.
- Electrical Machines.
- Electrical Drives and Control.
- Electrical Measurements & instrumentation.
- High Voltage Engineering.
- Microprocessors and Microcontrollers.

### Laboratories

- Electrical Machines [AC / DC machines]
- Electrical Machines [Special purpose machines]
- Electrical Measurements and Instrumentation
- Switchgear protection and Network Analysis, Microprocessors and Micro Controllers.
- Basic Electrical & Industrial Drives & Control
- Computer and Software Center
- Power Systems and High Voltage Engineering
- Control Systems
- Energy Management & Power Quality

### Major Equipments

- Electrical Machines: DC motors, Generators, 3 phase Alternator, Synchronous Motors, Schrage Motor, Induction Motors, Single phase motors & Linear Induction Motor.
- High Voltage And Power System: Impulse Generator, Corona Cage, Sphere Gap Voltmeter, Transformer Oil Test Kit, Storage Oscilloscope, Clamp On Power Meter, Static Models Of Transmission Lines, Network Analyzer etc., Tan Delta, Measurement, etc.
- Control System: DC servo motor, PID controller for temperature, PLC trainer with demo model etc.
- Measurement and Instrumentation: Kelvin's double bridge, Low voltage Schering bridge, Potential transformer testing kit, Current transformer testing kit, Transducers & Instrumentation tutor etc.
- Switchgear and Protection: Switchgear testing kit, Simulation model for protection of 3 phase alternator. & solid state differential relay, Static impedance relay for protection of transmission line, Microprocessor based multipurpose relay. LT switchgears and Display Unit (In collaboration with L & T) OV & UV relay testing unit etc.
- Computer & Software: Latest Configuration PCs with MATLAB, PSCAD, Electro-2D, Magneto-2D, O E R S T E D , ETAP, E-Learning Web based Server (Under AICTE MODROB Grant), Lab view & Elips SCADA.



## DEPARTMENT OF ELECTRONICS ENGINEERING

Accredited by (NBA)\*

India is the fourth largest telecommunication market in Asia, eighth largest in the world and second largest among emerging economies. The industry has witnessed an explosive growth in the field of electronics in the recent years. India has institutions that are deeply rooted in the principles of democracy and Justice. This ensures a transparent, predictable and secure environment for development of electronics field. The Indian market presents a unique opportunity as compared to developed countries, hence increasing the attractiveness of the Indian market. In the engineering field, electronics branch is one of the most significant as it reflects today's changing technology. It has become a must-know field as it forms the base for all other engineering branches. Electronics engineering is designed to develop the core engineering skills of students so that they would fulfill the requisite professional requirements of their chosen engineering fields.

Major Topics of Research Undertaken:

- Research grant worth Rs.2.83 Lacs was received under TEQIP\_II for "Dual Transform based Digital Audio Water marking Technique for copyright protection" in 2015.
- Research grant worth Rs. 0.5 Lacs was received from Institute of Engineers(IEI) for research work.

Research Facility Developed:

- MOU with Edvance & GAATSI for setting up 'Center for Excellence in Embedded Systems' laboratory with hardware donated by ARM University and Cypress Semiconductors.
- MOU with PHI Education for development of mini-projects.

Conferences Organized/ Workshops Organized:-

- The department has organized a Faculty Development Program on 'Embedded System Design & IoT' in March 2017.

- The department has organized a Faculty Development Program on 'Networking & Switching' in Feb. 2017.
- Conducted two days workshop on "PCB Design and Fabrication" in association with "Scientech Pvt. Ltd. Pune" on 26 & 28 September 2016 for B. Tech (Electronics) Sem-V students.
- Organized TEQIP-II sponsored workshop on "Embedded System Design using ARM & PSoc" on 15 & 16 September 2015, specially for UG and PG students.
- National Conference on Instrumentation & Communication Engineering (NACICE) in April-2013

Total Research Grants and Grant-in-Aid Received from Academic Year 2004-05 to 2014-15: Rs. 47.83 Lacs

Research Publications from Academic Year 2012-13 To 2016-17:

Type of Publication	No. of Publications
International Journal	134
National Journal	04
International Conference	05
Total	143

Major Groups/Areas

- Image Processing
- Digital Communication
- Wireless Networks
- Digital Signal Processing
- Very Large Scale Integration
- Biomedical Engineering

Laboratories

- Digital Signal Processing Laboratory.
- Programmable Industrial Controller Laboratory.
- Center of excellence in embedded system Laboratory.
- VLSI Laboratory.
- Electronic Circuits Laboratory.

- Switching & Digital Electronics Laboratory.
- Network Analysis Laboratory.
- Linear Integrated Circuit & Measurement Laboratory.
- Control System Laboratory.
- Power Electronics Laboratory.

#### MAJOR EQUIPMENTS

- Mixed Signal Oscilloscope.
- Power Scope.
- Beckhoff-PLC
- Spectrum Analyzer.
- Image & Video Processing Trainer Kit
- ARM LPC 2148 development Board

## DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

Coming to 21st century and you find people using all kinds of wireless devices to communicate. So, ever wondered how your 12.9mm cell phone catches signals at the remotest areas? Well, it's the work of telecommunication engineers. Employment opportunities for Electronics and Telecommunication engineers are growing rapidly. The list of employers includes manufacturers of radio, television, audio/visual, broadcasting and receiving equipments, hardware and associated software including computer systems, interfaces, security devices, data concentration, data transmission, signaling, satellite and radio communications and telephone equipment.

Research Publication from Academic Year 2012-13 to 2016-17 :

Type of Publication	No. of publications
International Journals	34
National Journals	00
International Conference	09
National Conference	09
Total	52

- PSOC Kits
- Spartan VI.
- PCB Prototype machine.

#### Software

- Mentor Graphics
- MATLAB R2013b.
- LabView
- Code Composer Studio
- MULTISIM 12.0
- Deja-Vu 2.0 for Image/Video Processing.
- Xilinx
- Vivado EDA Tools

#### Major Groups / Areas

- Image Processing
- Digital Signal Processing
- Very Large Scale Integration
- Fiber optic Communication

#### Laboratories

- Mobile Communication
- Digital Electronics
- Embedded Systems
- Electric Circuit Design and Project
- Microprocessor and Microcontroller
- Computer Network
- DSP and Image Processing
- Electronic Instrumentation and Measurement
- Power Electronics
- Instrumentation Control System Lab
- Network Analysis

#### Major Equipments

- Digital Storage Oscilloscope
- DSP Processor Development Board & EBMS
- TCP/IP Unit
- EPBX/PSTN Unit
- Modem Unit
- CDMA Unit
- GPRS/GSM Unit

- FHSS Unit
- DTH Trainer
- Satellite Radio Receiver
- Microwave Test Bench
- RF Signal greeter
- RF Spectrum analyzer
- Network analyzer
- NI ELVIS II Circuit design Bundle

#### Software

- XLINX
- MATLAB
- Keil
- Lab View
- Geneses Software and CEM (5 Users)
- Xlink software
- Optisystem V13.0.3 Software
- NI ELVIS II Circuit Design Bundle
- For quick access of books
- MATLAB software assignments
- Ansys software (5 users)
- Multisim
- Tasm and Masm Software for 8086
- Communication Design Software and NI USRP  
Communication 2\* USRP with cable and courseware with  
cable and courseware with Triband vertical Antenna as  
well as Dual Band Vertical antenna.

## DEPARTMENT OF INFORMATION TECHNOLOGY

In order to fulfill the above need, the Department has well equipped laboratories and upgraded curriculum which is developed by academicians and industry experts with very close link to the industry.

The Department of Information Technology has made substantial investment in its laboratories. The Department has specialized laboratories in Operating Systems, Multimedia Computing and Software Engineering.

The Information Technology Student Association organizes various events and expert lectures on different platforms. Apart from giving thorough technical knowledge using the state-of-art technology, the students are taught communication skills and are given work experience on live projects. Also, in-plant training is included in the course to expose the students to latest IT trends. Every year more than 50 companies approach to impart in-plant training to the students. The Companies include Medium/Small Scale, Large Scale companies & Government Organizations. Some of the companies are TCS, HCL, Zensar, HCL Infosystems, DRDO, etc.

#### Research Grant received

The department has received a grant of Rs. 3,00,000 by Science and Engineering Research Support Society and songshin Women's University, South Korea for the research project titled "Automatic Human Recognition System using image classification", in the year 2015-16.

#### Patent :

The department has filed an International patent under the title "Apparatus and Method for detecting legion in brain Magnetic resonance image and computer readable recording medium for implementing the method", This parent was filed in December 2015.

#### Research Publications from Academic Year 2012-13 to 2016-17:

Type of Publication	No. of publications
■ International Journal	113
■ National Journal	0
■ International Conference	07
■ National Conference	02
Total	122

#### Major Equipments

- Pentium -V 50Hz (150)

## Software

- Operating System  
Sco Xenix 2.1, Linux, Windows
- RDBMS  
Oracle, My SQL.

## Developing Softwares

Visual Studio, Microsoft Office, Turbo C + +, Microsoft C 6.0, Microsoft Fortran, Turbo Pascal, Microsoft Cobol, Turbo C, Visual Studio MS.Net, MS Project.

## Web Designing Software

Adobe Photoshop, Corel Draw.

## Library

The department has its own library which has more than 400 text and reference books, manuals and multimedia Cds.

## Major Groups / Areas

- Operating System
- Multimedia
- Image Processing
- Computer Networks
- Software Engineering
- Linguistics
- System Programming
- Web Engineering
- Machine Translation

## Laboratories

- System Software Laboratory
- Programming Laboratory - I
- Programming Laboratory - II
- Visual Programming Laboratory
- Research Laboratory - I
- Research Laboratory - II
- Linux Laboratory
- Multimedia Laboratory

## DEPARTMENT OF MECHANICAL ENGINEERING

Accredited by (NBA)\*

Mechanical engineers find placements in the automobile industry, oil and gas production companies, aeronautical field, cement industries, design sector, chemical industries, heavy machinery sector, information technology, and defense. In order to keep pace with the times, the department has started the postgraduate course in CAD/CAM, which is unique in Pune region.

The Mechanical Engineering Students Association (MESA) organizes student visits to various industries and guest lectures for the benefits of students.

## Major Topics of Research Undertaken:

- Development of Electrochemically Drilled Deep (equipment) Hole Technology required in the Aerospace and Defense sectors. This research work was funded by DST and grant worth Rs 21.54 lacs was received.
- Dynamic analysis of Gear systems for high speed machinery.
- Dynamic Loosening of Thread Fasteners in Machine Structures with a special reference to Soft Foot Condition.
- Heat transfer enhancement of heat exchangers.
- Waste heat recovery in textile industries.
- Hybrid (adhesive + bolt) joining technology.
- Surface finish enhancement of machined surface using Burnishing operation
- Biomass Cookstoves
- Biomass Gasification
- Concentrating solar collectors

Dr. K.B. Sutar has Received grant of Rs. 3,00,000/- under TEQIP-II for a project entitled "Experimental Investigation on Performance of four Biomass Cookstoves".

## Research Facilities Developed:

- Condition Monitoring Lab is established in collaboration with SKF Bearings, Pune to monitor the condition of the

bearings in Engines, Turbines and other machinery.

- Heat Engines Laboratory is developed utilizing research grant of Rs 10.00 lacs under AICTE (MODROBS).
- Mechatronics lab is also developed, which can be used to carry out research in Robotics and Automation.
- FFT analyzer for vibration analysis

Total Research Grants Received from Academic Year 2004-05 to 2014-15 : Rs. 51 Lacs

Research Publications from Academic Year 2012-13 to 2016-17:

Type of Publication	No. of Publications
▪ International Journal	61
▪ National Journal	01
▪ International Conference	04
▪ National Conference	01
Total	67

Major Groups / Areas

- Design Engineering
- CAD (Computer Aided Design)
- CAM (Computer Aided Manufacturing)
- Heat Power Engineering
- Manufacturing Engineering
- Mechatronics

Laboratories

- Steam Power
- Industrial Fluid Power
- Computer Graphics
- Heat Transfer
- Theory of Machines
- Dynamics of Machinery

- Lubricant Condition Monitoring
- Mechatronics
- IC Engines
- Refrigeration & Air Conditioning
- CAD/CAE

Major Equipments

- Steam Boiler, Steam Turbine.
- Advanced Pneumatic Trainer kit, Hydraulics Trainer Kit, Hydraulic Power Pack
- Emmissivity Measurement Apparatus, Stephan - Boltzmann Apparatus
- Clutch lining Testing Machine, Epicyclical Gear Train
- Governor, Gyroscope, Vibration Setup
- Refrigerator and Air-conditioning Tutor
- Multi Cylinder Petrol Engine, Diesel Engine Test Rigs
- Assembly Mini Cell
- Pick & Place Robot
- FFT Analyzer
- AC Servo Drive and Servo Motor Test Rig

Software

- |                                     |                       |
|-------------------------------------|-----------------------|
| ▪ IDEAS Nx10                        | ▪ CAD/CAM/CAE Trainer |
| ▪ MATLAB                            | ▪ ANSYS               |
| ▪ AUTOCAD                           | ▪ Windows NT          |
| ▪ Hypermesh                         | ▪ MESSUNG PLC         |
| ▪ Master cam                        | ▪ Labview (NI)        |
| ▪ Automation Studio 6.1             |                       |
| ▪ Unigraphics CAD/CAM               |                       |
| ▪ DELCAM & CIM/FMS, Witness CIM/FMS |                       |
| ▪ Pro Simulator                     |                       |
| ▪ NX Academic Bundle CAD/CAE        |                       |

## DEPARTMENT OF PRODUCTION ENGINEERING

Accredited by (NBA)\*

Production Engineering Department was established in the year 1983. This is one of few departments to be established in the University of Pune. The department provides the best of academic & practical knowledge to student's right from the inception. It provides Student's with a balance of intellectual and practical experiences. Its goal is to identify emerging technologies and Design innovative methods for teaching and learning, led by active research.

Major Topics of Research Undertaken:

- Manufacturing of panels of plain and complex shapes using composite materials and Nano Fibers (Electrospinning Method) by VARTM Process. Research grant worth Rs.10 lacs has been received from DMSRDE/ DRDO Kanpur for the same.
- Establishment of the Centre for Composite Materials in collaboration with NCAT, USA to focus on the development of light weight and high strength nano fibres and nano composites.
- Development of bi functionalized and conducting polymer nanofibres.

### Research Facilities Developed:

- The commissioning of CNC Co-ordinate Measuring Machine in Metrology & Quality Control laboratory.
- Modernization of Metallurgy Laboratory utilizing grant worth Rs. 5.3 lacs received from AICTE (Under MODROBS).
- The commissioning of Micro Hardness tester in the Metallurgy laboratory to accelerate research in metals, steels and other materials.
- The commissioning of Nanospin Electrospinning setup to manufacture nanofibers from variety of polymer solutions.

Total Research Grants Received from Academic Year 2004-05 to 2016-17 : Rs. 55.5 Lacs

Research Publications from Academic Year 2012-13 to 2016-17:

Type of Publication	No. of publications
■ International Journal	22
■ National Journal	04
■ International Conference	34
■ National Conference	20
<b>Total</b>	<b>80</b>

Major Groups / Areas

- Manufacturing Processes
- Composite Materials
- Industrial Engineering
- Metallurgy
- Manufacturing Automation
- CAD/CAM
- Product Design
- Inspection and Testing

Laboratories

- Metallurgy
- Metrology and Quality Control
- CAD/CAM
- Production Management
- Cutting Tool Engineering
- Robotics
- Composite Materials
- Machine Tools
- Advanced Manufacturing
- Foundry

Major Equipments

- Optical micrometer with CCTV
- Vickers cum Brinell hardness Tester
- Ultrasonic Flaw Detector
- Magnetic Particle Tester
- Spark Erosion Machine
- Electro-Chemical Machine
- Surface Roughness Tester (Mitutoyo Make)
- CNC Production Machine
- Six Axis Robot

- CNC Co-ordinate Measuring Machine
- Digital ultrasonic Machine
- j Eddy Current tester

#### Software

- Ideas 10 NX
- CATIA V-5 R-II
- Pro-E Wild Fire
- MASTER CAM
- CADEM
- Witness
- Ansys
- Systat

### BASIC SCIENCE AND HUMANITIES

The Engineering Science Department of BVU College of Engineering is highly reputed as it has excellent faculty. Every activity of the Department aims at consistent knowledge enhancement of students. In addition to all kinds of assistance for the students, we have very good contacts with the industry. Hence the Department has been constantly contributing high academic values of the College.

Research Publications from Academic Year 2012-13 to 2016-17 :

Type of Publication	No. of publications
• International Journal	28
• National Journal	---
• International Conference	06
• National Conference	06
Total	40



## Bharati Vidyapeeth

(Deemed to be University),  
Pune, India.



### College of Engineering, Pune

• 'A' Grade University Status by MHRD, GOI (2012) • Accredited to Grade 'A+' by NAAC (3<sup>rd</sup> Cycle)  
 • Programmes Accredited by NBA • Selected by MHRD, GOI for Grant under TEQIP-II  
 • '12 B' certification from University Grants Commission (UGC) New Delhi



**NATIONAL INSTITUTIONAL RANKING FRAMEWORK**  
Ministry of Human Resource Development  
Government of India

# INDIA RANKING 2017

## BVUCOE, PUNE

### RANKED

# 66<sup>th</sup> at National Level

## 7<sup>th</sup> in Maharashtra

### 2<sup>nd</sup> in Pune

**Criteria wise National Ranking**

Perception (PR)	• 25 <sup>th</sup> Rank
Graduation Outcome (GO)	• 87 <sup>th</sup> Rank
Outreach & Inclusivity (OI)	• 31 <sup>st</sup> Rank
Teaching Learning & Resources (TLR)	• 60 <sup>th</sup> Rank

## WORKSHOP

Workshop is intended as a core facility, to carry out all mechanical fabrication works. Workshop spread on 20000 sq. ft is well equipped with all facilities required to train the undergraduate students of engineering as well as to cater the needs of postgraduate students for fabrication of equipments and to undertake experimentations.

The major facilities in workshop are machining & fabrication. Workshop has 13 sections. It has a wide variety of machines which includes, Universal Milling Machines, Horizontal Milling Machines, Cylindrical Grinder, Centerless Grinder, Slotting machine, Shaper, Centre Lathes, Arc welding machines, Tungsten Inert Gas Welding, Metal Inert Gas Welding, Resistance Spot Welding, etc. It has an advanced manufacturing shop with an Electro discharge machine and an electrochemical machine, a CNC lathe.

## TRAINING AND PLACEMENT CELL

Training and Placement Cell has continuous interaction with industries. The Prominent industries which have regularly visited for campus placement are TCS, Infosys, Tata Infotech, Zensar, Wipro, Kanbay, Tech-Mahindra, L&T, Satyam Computers, Cognizant Technology, HLL, KOEL, EDS Syntel, Godrej Boyce, Punj Lloyed, Acenture,Cerner, US Technology etc. 63 companies visited for campus placement to our college in year 2014-15. More than 73% of the students from the outgoing batch of June 2014 have already been placed in these companies.

The cell coordinates for vocational training, career guidance lectures for students, industrial visits etc.

## R & D CELL

A separate R & D Cell is established to promote research activities in the institution. The R&D cell is particularly responsible for :

1. Motivating the staff members is carry out research in the field of engineering of their interest.
2. Promoting higher technical education in a disciplined manner. This includes framing of norms and standards and regulating and controlling the post graduate and doctoral programmes.
3. Establishing the Industry Institute interaction.
4. Guiding the departments in preparing project reports for research fundings. The agencies are AICTE, UGC, DST, DoE etc.
5. Collaborate with industries through MoU.

## SPORTS

The college has a well-equipped Gymkhana. The students in the college are provided with all the sports equipment. Our students have emerged with flying colours in various sports activities at College, University, State and National levels.

## CULTURAL ACTIVITIES

Art Circle is managed by students under the guidance of faculty members. It serves as a platform for enhancing and exposing the often hidden talents and skills of the

students in various fields like Dance, Orchestra, Fine Arts, Drama etc. and in competitions held by various Institutions. The college has won various prizes in intercollege competitions and earned appreciation for its activities and gained good reputation in extra curricular fields. The college organizes 'BHARATIYAM', the National Level Annual TechFest every year.

### STUDENTS' ASSOCIATIONS

All Departments have their own very active Students Association which organize various activities like wallpapers, seminars and workshops, industrial visits, etc. throughout the year.

The institute is also having various students chapter such as Society of Automotive Engineers, Institution of Engineers (INDIA), IEEE etc.

### NETWORK SECURITY

The use of internet has increased to multifold in recent years and network security has become the most complicated problem in cyberworld. The network crimes consist of financial crimes, online gambling, intellectual property right crimes, e-mail spoofing, cyber defamation etc. To

eliminate the above threats providing security is of paramount important to every corporate, Government organizations and every individual who is using computer technology. The estimated demand of such trained professionals by year 2011 will be 5,00,000. To make students of this College conversant with Network security.

Bharati Vidyapeeth (Deemed to be University) started a course on "Network Security" for all students of Engineering Colleges. First year students will undertake Module I and the students of second and third year of all disciplines will undertake module II & III respectively.

The objectives of this course are :

- Develop qualified experts in cyber security field.
- Protect organization, network and system from malicious attacks.
- Build, implement and follow a complete security policy.
- Learn the associated laws to protect the intellectual property attack.

Students completing module I will be awarded certificate course in Network Security and Diploma and Advanced Diploma to students completing II and III module successfully.





## PROCEDURE AND RULES FOR ADMISSION

### 1 ENTRANCE TEST - GENERAL INSTRUCTIONS, TERMS AND CONDITIONS

- 1.1 CET (ENGINEERING)-2018 is a ranking examination for admission to B.TECH graduate programmes for 2018-19 academic session.
- 1.2 Applicant may kindly note that mere appearance in the entrance test and inclusion of name in the merit list does not confer any automatic rights to secure admission to the programme offered by the institute. The selection and admission to the programme is subject to fulfilling the admission criteria, eligibility, any such criteria as may be prescribed by the University and availability of seats to the particular programme and institute at the time of counseling.
- 1.3 Applications of candidates producing false or fabricated information will not be considered
- 1.4 Before initiating registration process, candidates should go through the Information brochure carefully for eligibility criteria, and pattern of examination etc. The information brochure shall be available at [www.bvuniversity.edu.in](http://www.bvuniversity.edu.in)
- 1.5 Incomplete online application, if not in accordance with instructions, will not be considered and processed. Applicant should carefully fill up all the fields during online application process and complete the payment process. Application once submitted finally, cannot be withdrawn/modified.
- 1.6 The entrance test fee, once paid, will not be refunded under any circumstances. Candidates who remain absent for the entrance test will forfeit their entrance test fee.
- 1.7 The Information brochure is subject to modification without notice, please check the website regularly for updates, if any.
- 1.8 The authorities of the institution reserves the right to withdraw permission, if any, granted inadvertently to any candidate who is not eligible to appear in the entrance test even though Admit card/Registration number has been issued.
- 1.9 The Admissions provided to candidates based on the result of the entrance test will be purely provisional and subject to the fulfillment of eligibility criteria as mentioned in the Information brochure.
- 1.10 Under no circumstance a change in examination centre once selected by the candidate will be allowed.
- 1.11 Candidates MUST bring the following documents to the test centre - (a) Printed copy of Admit Card (b) Any one of the authorized photo IDs (must be original, valid and non-expired): Aadhaar Card /PAN card/Driving license/Voter ID/Passport. The name on the photo identification must match with the name as shown on the Admit card. Candidate reporting to test center without the above said requisite documents shall not be allowed to appear for the entrance test.
- 1.12 All the correspondence should preferably be addressed by e-mail. The e-mail query shall be addressed only if it is not anonymous and not vague.
- 1.13 Candidates are deemed to have read, agreed and accepted the terms and conditions in the Information brochure and on completing the registration/application form for the entrance test.
- 1.14 In case differences of opinion or any ambiguity in interpretation and implementation of any of the instructions / terms/rules/criteria regarding the determination of eligibility/conduct of examinations/registration of candidates / information contained herein, the same shall be referred to the Vice Chancellor of the Bharati Vidyapeeth (Deemed to be University) and his decision shall be final and binding on all concerned.

1.15 Any legal matters arising out of the total admission process through the All India Common Entrance Test of Bharati Vidyapeeth (Deemed to be University), Pune – 30 i.e. CET (ENGINEERING)-2018, shall be within the exclusive jurisdiction of competent courts at Pune, Maharashtra State only.

## 2. GENERAL

The students will be admitted to the Engineering degree courses of the College of Engineering, Pune on the basis of the merit obtained by them in the All India Common Entrance Test CET (ENGINEERING)-2018 conducted by the Bharati Vidyapeeth (Deemed to be University).

N.B. :

### Courses & Intake Capacities

Sr. No.	Name of Course	Students intake for first year
1.	B. Tech. (Computer)	120
2.	B. Tech. (Mechanical)	120
3.	B.Tech. (Electronics & Telecommunication)	120
4.	B. Tech. (Electronics)	90
5.	B. Tech. (Information Technology)	60
6.	B. Tech. (Civil)	60
7.	B. Tech. (Electrical)	60
8.	B. Tech. (Chemical)	60
9.	B. Tech. (Production)	60

### POST-GRADUATE COURSES

The college is running post graduate courses in following branches,

- M.Tech. (Chemical)
- M.Tech. (Computer)
- M.Tech. (Electronics)
- M.Tech. (Information Technology)
- M.Tech. (Civil)
- M.Tech. (Electrical)
- M.Tech. (Mechanical)
- M.Tech. (Nano Technology)

The admissions to these courses are given through an Entrance Test conducted separately by the University.

i Foreign National / PIO / OCI Merit Seats :

Fifteen percent (15%) supernumerary seats of over and above the sanctioned intake in each discipline are reserved for Foreign National / PIO / OCI. Candidates desirous of getting admission under these Category will have to apply to The Registrar, Bharati Vidyapeeth (Deemed to be University) Pune, India. The last Date for submission of the form for this Category is **21<sup>st</sup> May 2018** before 5.00 p.m.

i Foreign National / PIO / OCI / NRI / Institutional Quota Merit Seats :

Fifteen percent (15%) of the sanctioned intake in each branch are reserved for Foreign/NRI(Non-Resident-Indian)/P.I.O./O.C.I./ Institutional Quota Merit Category students. Candidates seeking admissions to the seats of this category will have to apply to The Registrar, Bharati Vidyapeeth (Deemed to be University) Pune, India. The Form fee for this category is RS. 1000/- (non refundable). The last date for submission of form to this Category is **21<sup>st</sup> May 2018** before 5.00 p.m. Seats remaining vacant after allotment to Foreign / N.R.I. / P.I.O. / O.C.I. merit students will be allotted to Indian students under Institutional Quota Merit Category on the basis of marks obtained by them in the CET (Engineering) -2018.

### 3 ELIGIBILITY FOR APPEARING IN CET (ENGINEERING) - 2018

Only those candidates who satisfy or are likely to satisfy the relevant eligibility requirements for admission to the courses will be considered eligible to appear for the Common Entrance Test CET (ENGINEERING)-2018

#### Eligibility for admission to B.Tech. Programme :

The candidate seeking admission B.Tech Programme should have passed the Higher Secondary Certificate Examination (H.S.C.) or the Indian School Certificate Examination (ISCE) or any other examination equivalent to 10+2 or HSC examination of any recognised Board/ University from any school/college situated in India.

“Passed HSC or its equivalent examination with Physics and Mathematics as compulsory subjects along with one of the Chemistry or Biotechnology or Biology or Technical Vocational subjects and obtained at least 50% marks (45% marks in case of candidates of Schedule Castes / Schedule Tribes categories and Persons with Disability) in the above subjects taken together.

OR

Passed Diploma in Engineering & Technology from AICTE approved institution and obtained at least 50% marks (45% marks, in case of Schedule Caste / Schedule Tribes categories and Persons with Disability)”

Note : a) Candidates who are likely to appear or who have appeared for qualifying examination i. e. H.S.C. etc. but whose results have not been declared will also be considered eligible to appear for CET (Engineering) - 2018, provided they have offered the above mentioned subjects at the said examinations. However, they should produce marksheets of HSC at time of counselling.

b) After Counseling, if some seats remain vacant, these vacant seats will be made available for eligible candidates, who have qualified CET conducted by competent authority of any State Government / Central Government like MHT CET, JEE (Main) etc.

#### 4. BASIS OF SELECTION FOR ADMISSION

- 4.1 A Candidate desirous of seeking admission to B.Tech.(Engineering) Programme should fulfill the minimum eligibility condition as stated in point no 3, above.
- 4.2 He/She must have appeared for the CET (ENGINEERING)-2018 Test[Written Test] conducted by BharatiVidyapeeth (Deemed to be University), Pune at designated centres.
- 4.3 The candidates whose names appear in the list prepared on the basis of marks obtained by them in CET (ENGINEERING)-2018 should attend the Counselling and on-the-spot admissions sessions to the various branches and courses as per their ranks in the merit list. The Counselling Sessions combined for all branches will be conducted at Bharati Vidyapeeth (Deemed to be University), College of Engineering, Pune-Satara Road, Pune 411043. Mere appearance in the entrance test and inclusion of name in the merit list does not confer any automatic rights to secure admission to the programme offered by the college. The selection and admission to the programme is subject to fulfilling the eligibility criteria.
- 4.4 In case two or more candidates obtain equal marks in the CET (ENGINEERING)-2018, the inter rank of such candidates shall be determined in order of preference as under :
  - a) Candidates obtaining higher marks in Mathematics in the entrance test.
  - b) Candidates obtaining higher aggregate percentage of marks in H.S.C./equivalent examinations
  - c) Candidates obtaining higher percentage of marks in Mathematics in the 10th standard examination.
  - d) In case of tie at this level, computerised random selection of candidate will be carried out.

#### 5. NATURE OF ENTRANCE TEST "CET(Engineering)-2018"

All candidates desirous of taking admission for B.TECH.(Engineering) Programme must appear for CET(Engineering) -2018

- 5.1 The Entrance Test CET (ENGINEERING)-2018 for admission to B.TECH.(Engineering) Programme will be of 200 marks. The examination consists of one question paper set in English medium and will consist of 200 multiple choice questions with four alternatives, with only one correct or most appropriate answer. One Mark will be awarded for each correct answer. It will consist of 100 questions on Mathematics and 100 questions on physics, the duration of the examination is of 3 hours. These questions will be in general on the detailed syllabi given in Annexure- I. There is no negative marking for the wrong answer chosen or unanswered questions by the candidates.

#### 6. ENTRANCE TEST SCHEDULE AND ADMIT CARDS

The entrance test CET(Engineering) 2018 will be conducted on 27<sup>th</sup> May 2018 from 11.00 am to 2.00 pm. The candidates have to be present at the centre of the examination at 10.30 a.m. positively. Admit card will be available online to candidates after successfully filling up the online application form and payment of the entrance test fee. Candidates are required to download and print a copy of the admit card.

Candidates MUST bring the following documents to the test centre -

- (a) Printed copy of Admit Card
- (b) Any one of the authorized photo IDs (must be original, valid and non-expired): Aadhaar Card /PANcard/Driving license/Voter ID/Passport. The name on the photo identification must match with the name as show on the Admit card. Candidate reporting to test center without the above said requisite documents shall not be allowed to appear for the entrance test.

## 7. TEST CENTRES AND CONDUCT OF CET(ENGINEERING-2018:

The list of cities where the entrance examination centres are located is as below :

Centre No.	City	Centre No.	City
01	Pune	07	Lucknow
02	New Delhi	08	Bangalore
03	Navi Mumbai	09	Jaipur
04	Hyderabad	10	Varanasi
05	Vadodara	11	Chandigarh
06	Indore		

- 7.1 Candidates shall appear at the examination centre as shown on their Admit Cards.
- 7.2 Candidates have the option of selecting their city to appear for the entrance examination during filling up of online application form.
- 7.3 Candidates are advised to familiarize themselves with the route and location of the examination centre.
- 7.4 Only registered candidates with valid admit card and identity card will be allowed at the examination centre.
- 7.5 The candidates must reach the test centre at least 30 minutes prior to the commencement of test on the day of the entrance test.
- 7.6 The examination hall will be opened 30 minutes before the commencement of the test. Candidates are expected to take their seats at least 15 minutes before the commencement of the test. If the candidates do not report in time, they are likely to miss some of the important instructions which will be announced in the examination hall.
- 7.7 A candidate will not be allowed to appear for the Test if he/she is late by 30 minutes or more to reach the examination hall.
- 7.8 A seat with a number will be allotted to each candidate which will be mentioned on the admit card.
- 7.9 A Candidate will not be allowed to carry any textual material, printed or hand written chits or any other material except the Admission Card inside the examination hall. Candidates are not permitted to bring calculators, slide rules, Log tables, and electronic watches with facilities of calculators, laptop computers, personal stereo systems, walkie-talkie sets, paging devices, mobile telephones, earphones, bluetooth, electronic pen scanner and any other objects/devices in the examination hall. Possession or use of such devices during the examination is prohibited and candidate is liable to be expelled if found using or possessing them
- 7.10 No candidate, will be allowed to go outside the examination hall till the completion of the entire duration of examination. Once the candidate leaves the hall (even for answering a call of nature) he/she will not be readmitted to examination hall. No exception will be made in this regard.
- 7.11 Parents, relatives, or friends of the candidates will not be allowed to enter into the premises of the centre. No arrangement will be made for tea snacks etc. for the students or parents.
- 7.12 Candidates are advised to bring with them a cardboard or a clipboard, on which nothing should have been written. This board will be useful to them while writing their responses in the answer sheet if in case tables in the examination hall do not have smooth surface.

- 7.13 Smoking in the examination centre is strictly prohibited. Beverages or snacks of any kind are not allowed to be taken into the examination hall during examination hours.
- 7.14 Candidates should maintain perfect silence and discipline in the examination hall. Any conversation, gesticulation or disturbance in the examination hall shall be considered as misbehavior and the candidates involved in such behaviour will be expelled from the examination hall. Similarly, if any candidate is found using unfair means or allowing someone else to impersonate him/her, his/her candidature at the examination will be instantaneously cancelled.
- 7.15 During the examination time, the invigilator will check the Admit Cards of the candidates to satisfy himself /herself about the identity of each candidate. The invigilator will also put his/her signature in the place provided in the Answer Sheet on SIDE-1.
- 7.16 After completing the test and before handing over the Test Booklet and the Answer Sheet back to the invigilator, the candidate should check once again whether all the particulars required in the Test Booklet and the Answer Sheet have been correctly written. He should ensure that the Roll Number, Centre Code and the Test Booklet number are correctly written on the answer sheet.
- 7.17 A warning bell will be given at the beginning of the examination and also to mark the half time of the examination time. A bell will also be given before the closing time when the candidate must stop marking the responses or writing.
- 7.18 The authorities of Bharati Vidyapeeth (Deemed to be University) however reserve the right to make suitable changes in the centre venue or schedule of the entrance test.

## 8. ENTRANCE TEST FEE :

- 8.1 Entrance test fee: Rs 1,700 /- (non refundable)
- 8.2 The entrance test fee shall be paid through payment gateway using internet banking mode or through debit/credit card. Service charges and other taxes for transaction as applicable by bank has to be paid by the applicant.
- 8.3 The entrance test fee, once paid, will not be refunded under any circumstances. Candidates who remain absent for the entrance test will forfeit their entrance test fee.

## 9. APPLICATION PROCEDURE

A candidate desirous of appearing for the CET(Engineering) - 2018 entrance test is required to complete the prescribed online application form and submit to the University along with entrance test fee.

The application form is available online at : [www.bvuniversity.edu.in](http://www.bvuniversity.edu.in)

The candidates should strictly follow the instructions given in the website while filling up the application form online, and must read the instructions carefully before filling up the online application form. Instructions are mentioned at 'Registration Guide' menu which is available on website. Before filling up the application form online, candidates should:

- Create their login credential
- Have a scanned image of their recent passport size photograph (Refer to guidelines mentioned on the website)
- Have a scanned image of their signature, ready before filling up the online application form.
- Read the procedure and guidelines for online payments of test fee which is to be made through Credit Card / Debit Card / Internet Banking. (Refer to guidelines, terms and conditions for using online payment mentioned on the website)

The candidate may then proceed to fill the form and submit the completed application form. The candidate should take a

print of payment receipt and completed application form for reference and as a record.

Candidates should submit the completed online application form on or before the last date mentioned in the website. (See "Important dates" in the brochure.)

Candidates are required to download and print a copy of the admit card after completion of the online application process. In case admit cards are not available online immediately after completion of online application, the candidates will be informed through email about the date of availability of admit card at the website.

Candidate should ensure that all information entered during the online application process is correct.

Applications of candidates producing false or fabricated information will not be considered.

The authorities of the University do not edit /modify/alter any information entered by the candidates at the time of online application process under any circumstances. Any request for change in information thereafter will not be entertained.

For any queries related to filling online application form, Email to : [cet@bharativedyapeeth.edu](mailto:cet@bharativedyapeeth.edu)

## 10. INSTRUCTIONS REGARDING TEST BOOKLET AND ANSWER SHEET: (WRITTEN TEST)

The candidate will be provided with a sealed Test Booklet with an answer sheet.

### 10.1 Test Booklet :

The candidate will be provided with a sealed Test Booklet with an answer sheet. The candidate will write with ball point pen the required information regarding Roll Number, Name, Centre code and Centre of examination in the columns on the Test Booklet without opening the seal. The candidates are advised not to open/break the seal of the same before they are instructed to do so by the invigilator.

In the Test Booklet, there will be 200 items/questions serially numbered from 001 to 100 on Mathematics, 101 to 200 on Physics. Each question will be followed by four responses marked (A), (B), (C) & (D). Out of these four responses only one will be correct or most appropriate, which needs to be selected and marked on the answer sheet.

### 10.2 The Answer Sheet :

An answer sheet will be given to the candidates along with Test Booklet at the time of the test.

10.2.1 This answer sheet will be of special type, which will be scanned mechanically by Optical Mark Scanner. So the candidate should handle the answer sheet very carefully. There will be two sides of the answer sheet.

#### 10.2.2 Side 1 of the Answer Sheet.

This side of the answer sheet begins with instructions for marking the responses. The following information is then to be filled in with a ball point pen only, neatly and accurately :

- Name of the Candidate
- Roll Number
- Centre of Examination (Name of the city)
- Signature of the Candidate

- Optional subject selected to be mentioned on right top corner above test booklet serial no.

This side of the answer sheet also contains the following columns, which are to be written /filled in with HB pencil/blue/black ball point pen only. (Please study the specimen answer sheet appended at Annexure V).

- Roll Number : Write in the squares and darken (completely filling in) the appropriate circles corresponding to Roll Number.
- Test Booklet Number : Each test booklet has a number. Write it at appropriate place.
- Test Form Number : Write in the squares and darken the appropriate circles corresponding to Test Form Number mentioned on the Test Booklet.

### 10.2.3 Side 2 of the Answer sheet

This side is used for marking responses to questions numbered 001 to 200. After every question number, four circles numbered (A), (B), (C), & (D) are provided for this purpose.

The candidate must indicate his/her response to the question by darkening the appropriate circle completely with H B Pencil/blue/black ball point pen. For Example :

Q.003 Mumbai is the capital city of the state of

- (A) Tamilnadu
- (B) Karnataka
- (C) Orissa
- (D) Maharashtra

The correct response is (D). The candidate will locate question number in the answer sheet and darken the circle (D) as shown below :

	(A)	(B)	(C)	(D)
001	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
002	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
003	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
004	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If the candidate darkens more than one circles or if he does not mark his response as shown above and marks his response as shown below, his response will be treated as wrong and will not be given marks.

	(A)	(B)	(C)	(D)
001	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
002	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
003	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
004	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Note : Please use HB Pencil/blue/black ball point pen only for writing/marking particulars on Side-2 of the answer sheet.

- The candidates are advised to decide about the answer before they mark it on the answer sheets. He/She must ensure that the circle is completely darkened with HB Pencil/blue/black ball point pen only. A lightly or faintly darkened circle is a wrong method of marking and will be rejected by the Optical Scanner.
- If the candidate does not want to attempt any particular question, he/she is advised not to touch any of the circles given against that question. However, it may be noted that there is no negative marking for selecting the wrong response.  
The candidate must not fold the answer sheet and should not make any stray marks on it.
- A specimen copy of the answer sheet is given at Annexure V. Candidates are advised to go through it and get conversant with it. The candidate will learn from this answer sheet, how to fill in the information asked for and how to mark the answers. This will help the candidates to do the things correctly and save their time.

#### Changing An Answer

- If a candidate wants to change any answer marked by him/her on the answer sheet, he/she must completely erase the existing pencil/blue/black ball point pen mark and then darken the appropriate circle with HB Pencil/blue/black ball point pen. Candidate must not leave any visible mark in the circle after erasing. Otherwise the response will be rejected by the optical mark scanner. Such erasing should be avoided as far as possible.
- Test Booklet number as filled in by the candidate in the answer sheet will be accepted as final for the purpose of evaluation. When the booklet number is left blank or more than one booklet numbers are indicated on the answer sheet, it will be deemed as incorrect booklet number and answer sheet will not be evaluated.

In case any pencil/blue/black ball point pen other than HB pencil/blue/black ball point pen is used, the answer sheet will be possibly rejected by the optical mark scanner.



### Important Instructions For Marking

Use HB pencil/blue/black ball point pen, blue or black ball pen to darken the appropriate circles.

The candidate must also bring his/her own pencil/blue/black ball point pen, sharpener and erasers of good quality.

Marking should be dark and should completely fill the circle

Darken only one circle for each question

Please do not fold the answer sheet or make any stray marks on it.

Make the marks only in the space provided

### Rough Work

The candidate will not do any rough work or writing work on the answer sheet. All rough work is to be done in the Test Booklet itself.

### 11. DECLARATION OF RESULT :

The merit list of CET (ENGINEERING)-2018 (based on 200 marks) will be declared on 4th June 2018 after 5 p.m. Separate merit list will be prepared for Regular category and Foreign/NRI/PIO/OCI/ Institutional Quota Merit Category. who have appeared for CET (ENGINEERING)-2018 based on the total marks obtained by them in Mathematics and Physics taken together.

The result of CET (ENGINEERING)-2018 test will be displayed on following web site :

1. University Website : [www.bvuniversity.edu.in](http://www.bvuniversity.edu.in)
2. College Website : [www.bvucoepune.edu.in](http://www.bvucoepune.edu.in)

The merit list of CET (ENGINEERING)-2018 entrance test will be also be displayed at the BharatiVidyapeeth (Deemed to be University), College of Engineering, Dhankawadi, Pune-411043.

### 12. COUNSELING AND SPOT ADMISSIONS :

After declaration of result the university will dispatch counselling and on the spot selection invitation letters to first 5000 candidate in the merit list of CET (Engineering) - 2018. Candidates who have filled the application form online and whose name appear within the merit list of first 5000 will receive the counseling invitation letters at the email address provided.

The candidate from merit No. 1 to 5000 should attend the counselling on the dates mentioned in the counselling schedule mentioned in 12.1 below. Candidate from merit no. 5001 to 8000 should attend the counselling only after confirmation of vacancy position on our websites and on the dates specified mentioned below.

12.1 The counselling schedule will be as follows :

Date	Candidates called for Counselling	Time
Regular Merit Category		
18-06-2018	Merit No. 1 to 500	9.30 a.m. onwards
	Merit No. 501 to 1000	1.30 p.m. onwards
19-06-2018	Merit No. 1001 to 1500	9.30 a.m. onwards
	Merit No. 1501 to 2000	1.30 p.m. onwards
20-06-2018	Merit No. 2001 to 2500	9.30 a.m. onwards
	Merit No. 2501 to 3000	1.30 p.m. onwards
21-06-2018	Merit No. 3001 to 3500	9.30 a.m. onwards
	Merit No. 3501 to 4000	1.30 p.m. onwards
22-06-2018	Merit No. 4001 to 5000	10.00 a.m. onwards
Foreign / NRI / PIO / OCI / Institutional Quota Merit Category		
23-06-2018	Merit No. 001 to 140	10.00 a.m. onwards
Regular Merit Category Merit No. above 5001 should see the University / College website for vacancy status.		
25-06-2018	Merit No. 5001 to 6000	10.00 a.m. onwards
26-06-2018	Merit No. 6001 to 7000	10.00 a.m. onwards
27-06-2018	Merit No. 7001 to 8000	10.00 a.m. onwards

Counselling location :

Bharati Vidyapeeth  
(Deemed to be University)  
Pune, India

College of Engineering, Pune  
Pune Satara Road, Dhankawadi, Pune 43.  
Tel. No. : 020 24107390/24107391  
Fax No. : 020 24372998  
Website : [bvucoepune.edu.in](http://bvucoepune.edu.in)  
Email : [info@bvucoep.edu.in](mailto:info@bvucoep.edu.in)



- The university shall allot the seats by merit and as per availability of vacancy in the branch at the time of counselling. It may be possible that seat in the branch of the choice of the candidate or in any other branch may not be available at the time of counselling of the candidate. The university shall not be responsible for the same.
- The counselling session will be conducted at Bharati Vidyapeeth (Deemed to be University), College of Engineering, Pune Satara Road, Dhankawadi, Pune-43. Tel. No. : 020 24107390/24107391 Fax No. : 020 24372998  
Website : [bvucoepune.edu.in](http://bvucoepune.edu.in) Email : [info@bvucoep.edu.in](mailto:info@bvucoep.edu.in)  
as per the schedule. Failure to report for counselling on the scheduled date and time may result in instantaneous cancellation of candidate's claim for admission. It shall be candidate's responsibility to see the result of CET (Engineering) - 2018
- The candidate should remain present for the personal interview (counselling) and for on the spot admission, if eligible, even though he/she does not receive any intimation letter from the University.
- Only the candidate and one of his parents/guardian will be allowed into the hall where counselling is held. The candidates will be called in the order of their ranking in the merit list and offered the seats to the various courses available at that point of time. The candidate will be allowed to choose admission to the course in which seats are available when his / her turn for counselling comes.
- The candidate must note that appearance at this test and inclusion of name in the merit list do not necessarily mean that he/she will get admission to the course of his/her choice. His/Her admission to a particular course will depend upon the availability of vacancies for that particular course at the time of his/her counselling.
- At the time of reporting for the counselling, the candidate is required to produce the documents (original and two sets of photocopies) listed in Annexure-II and letter for counselling. If the candidate is admitted to any of the courses, these documents will be retained by the University till he/she completes the course. If the candidate fails to produce all or any of the documents listed in Annexure II, he/she will instantaneously forfeit his/her claim for a seat.
- It may be possible that the student may fail to receive the invitation letter due to any reason. They may attend the counselling sessions as per the schedule of counselling on their own, provided they satisfy requisite qualifications for admission and that their name appears in the merit list in the CET (Engineering) - 2018 . The candidates who fail to receive the counselling letter, for whatever reason, must bring some other proof of identity of appearing at CET (Engineering) – 2018 examination, for permission to appear for the counselling sessions. It will not be possible to make any changes or adjustments in the dates of the counselling sessions.
- The candidate should attend counselling session on his / her own judgment. It may happen that a seat for admission for the course of his choice may not be available when his / her turn comes up as per the merit in CET (Engineering) - 2018 results.
- The candidates in the merit list prepared on the basis of marks obtained by the candidates in the CET (Engineering) - 2018 will be called in as per their ranks for counselling and on the spot admission to the various courses as per schedule.
- Admission status and vacancy positions will be uploaded on college website daily during counseling period.
- All students and parents are requested to refer college website - [www.bvucoepune.edu.in](http://www.bvucoepune.edu.in)  
for vacancy status during counselling and report accordingly.
- After filling all the seats, waiting list numbers will be allotted to only those candidates who have reported for counselling.  
Candidates in the waiting list will be called for admission subject to the vacancies developed on the basis of cancellation of admissions by the candidates admitted through the counselling.  
However vacancies developed because of cancellation of admission by the students, will be made available to the students admitted & who stands next in the merit list.

- If any candidate finds it impossible to be physically present for the counselling due to unavoidable circumstances, he/she may authorise any other responsible individual to represent him/her at the counselling. This representative must carry with him/her the letter of authorization in the format given in Annexure IV as well as all the documents listed in Annexure II. If the candidate or his /her representative fails to report for the counselling on the date and the time mentioned in the schedule of counselling, his/her claim for admission to any of the branches or courses will be forfeited. The choice of course or branch made by the candidate/his/her representative will be final and binding and will not be ordinarily altered later
- The selected candidate will be required to pay the entire amount of annual tuition fee and other fees on the day of counselling itself, through Bank Draft drawn on any nationalized bank in favour of the "Registrar, Bharati Vidyapeeth (Deemed to be University) Pune, India. In case the candidate fails to remit the entire amount of fees, he/she is likely to lose his/her claim for admission. Refund of fees will be governed by the rules of the University prevailing at that time.

12.2 After scrutiny of their certificates, the candidates are offered admission according to their rank and availability of seats.

### 13. FEE STRUCTURE

The fees to be paid per annum for the B.Tech. (ENGINEERING) Programme -

Type of Fee	Regular Merit Category	Institutional Quota Merit Category	Foreign/NRI/PIO/OCI Merit Category
Annual Fees	₹ 1,20,000/-	₹ 2,40,000/-	US \$ 5400

The fee is to be paid through Bank Draft of any Nationalized bank drawn in the name of "The Registrar, Bharati Vidyapeeth (Deemed to be University) Pune, India. payable at Pune".

Note: In addition, caution money deposit (Rs. 2,000), smart card fee (Rs. 450), Dress code fee (Rs. 1,000 for boys; Rs. 850/- for girls) has to be paid by through Bank Draft drawn on any nationalized bank in favour of the "The Principal, Bharati Vidyapeeth (Deemed to be University) Pune, India. College of Engineering, Pune" payable at Pune on the day of counselling itself.

In case the candidate fails to remit the entire amount of fees, he/she is likely to lose his/her claim for admission.

If a candidate fails to confirm admission given to him/her, the same shall stand cancelled and the resultant vacancy will be offered to the next eligible candidate from the list. However, if candidate is unable to report in person, he /she can depute a representative with an authority letter signed by the candidate (appended in this brochure) along with requisite documents under sec. 12 above and DD of fees.

There are a few seats available in the hostel which will be allotted on first come first served basis.

Those who are desirous of getting admission to the hostel will be required to pay the entire amount of rent for the year as well as the mess charges for the entire academic year at the time of admission only. The details of hostel fees will be given in counselling letter. The payment for the hostels should be made by separate D.D.

#### 14. REFUND OF FEE :

Rules regarding cancellation of admission and refund of fee will be as per UGC norms and as per the directives given by Hon'ble Supreme Court of India. Remittance and Refund of Fees and Other Student-centric Issues (University Grants Commission Notification on December, 2016)

##### 1. Introduction:

One of the fundamentals of the Indian higher education system, even after the significant evolution of private sector in the domain, has remained its commitment to provide education without profit. The rationale behind this policy paradigm has been to protect the rights and entitlements of students whose financial conditions often pose a roadblock to their desire for quality higher education. For a country like India, it is but natural to promote "not-for-profit" paradigm in view of low per capita income and high poverty index. It has to be acknowledged that this apparently idealistic principle has worked to an appreciable extent in India. However, the considerable number of complaints, grievances, court cases and other references received by UGC on various coercive and shady dealings carried out by HEIs reflect that profiteering motivations still drive the operation of quite a few institutions in India. The reason behind the proliferation of such malpractices can be many, including absence of an effective and robust policy regime. However, what is most disturbing about the dismal scenario is that students are at the receiving end of this malaise. The Commission has earlier notified University Grants Commission (Grievance Redressal) Regulations, 2012 on redressal of multifarious grievances of students. But given the sheer volume of the complaints regarding non-refund of fees and retention of original certificates by HEIs and other related issues, the Commission has felt the need to notify elaborate instructions so as to curb such malpractices. Considering the seriousness of the issue, the UGC has decided to issue appropriate instructions in the form of this notification to all universities and other higher educational institutions under the purview of UGC.



## 2. Objective:

To prohibit coercive and profiteering institutional practices in the matters related to verification of certificates and testimonials at the time of admission, remittance of fees and refund thereof in case of cancellation of admission and other such student-centric issues.

In exercise of powers conferred by Section 12 (d) read with Section 12(j) of the UGC Act, 1956, the UGC issues this notification for adoption of standard operating procedures in the matters related to verification of certificates and testimonials at the time of admission, remittance of fees and refund thereof in case of cancellation of admission and other such student-centric issues with an aim to curb coercive and profiteering institutional practices that directly and indirectly constrain the fundamental rights of students to explore multiple opportunities and choices in terms of their academic career.

## 3. Application and Enforcement

- 1.1. The instructions contained in this notification shall be in supersession to its earlier Public Notice dated 23.04.2007. It shall be applicable to Undergraduate, Postgraduate and Research Programs run by all statutory universities recognized by UGC under Section 2 (f) of UGC Act, together with all colleges under their affiliating domain and institutions declared as deemed to be universities under Section 3 of the UGC Act.
- 1.2 The instructions contained in this notification shall come into force with immediate effect and shall have regulatory force on extant as well as future grievances over issues and matters covered herein.
- 1.3 Universities shall amend their relevant statutes, rules, regulations etc. and bring them in line with the provisions contained herein.

## 4. Specific Instructions and Mandatory Actions for HEIs:

The Commission herewith lays down specific instructions and consequent mandatory actions on the issues related to (1) verification and non-retention of students' academic and personal certificates and testimonials, (2) remittance of fees by students and refund thereof by the institution concerned in the event of the cancellation of admission by the student and (3) an effective grievance redressal mechanism to be installed by the affiliating university for quick and effective resolution of grievances in this regard;

- 4.1.1 No institution of higher education shall insist upon a student to submit the original academic and personal certificates and testimonials like mark-sheets, school leaving certificates and other such documents at the time of submitting admission form.
- 4.1 Verification and Non-retention of Students' Academic and Personal testimonials
  - 4.1.2 In line with instructions issued by Ministry of Personnel, Public Grievances & Pension, Department of Administrative Reforms, PG & Pension, the Commission has already written to HEIs about allowing self-attestation of documents such as mark-sheets, birth certificate etc. by the applicant where there is a system of verification of the original certificates and testimonials at any stage before the finalization of the process of admission.
  - 4.1.3 HEIs shall physically verify the originals at the time of admission of the student in his/her presence and return them immediately after satisfying themselves about their authenticity and veracity, keeping the attested copies for their record.

- 4.1.4 The self-attested testimonials of students shall be held valid and authentic by institution concerned and/or the affiliating university for all purposes and administrative requirements and should there be a need for physical verification at any time during the course of program of study, such verification shall be undertaken in the presence of the student and certificates and testimonials thus verified shall be returned immediately to the student.
- 4.1.5 Taking the certificates and testimonials into institutional custody under any circumstances or pretexts is strictly prohibited for it is a coercive tactic which can be misused for blackmailing students who wish to withdraw admission from the institute for better prospects or other compulsions.
- 4.1.5 In case of any suspicion over the authenticity or genuineness of the testimonials, the reference may be made to the university or the Board which issued certificates to the student and the admission be subjected to the authentication, but original certificates shall not be retained under any circumstances
- 4.2.1 No HEI shall make it mandatory for applicants to purchase the institutional prospectus any time during the course of the program of study. Purchasing prospectus shall be the personal choice of the student and he/she has all rights to decide against it in case he/she wishes to access the information from institutional website. As laid down in the Right to Information Act, 2005, and reiterated in the UGC Guidelines on Students' Entitlement, all HEIs shall disclose on their website and prospectus information like the status of the institution, its affiliation, accreditation rating, physical assets and amenities, course-wise sanctioned intake of students, details of faculty, membership of governing bodies and minutes of the meetings of bodies like Academic/Executive council, sources of income and the financial situation and any other information about its functioning necessary for a student to make a fully informed choice.
- 4.2 Remittance and Refund of Fees
- 4.2.2 HEIs shall charge fees in advance only for the semester/year in which a student is to engage in academic activities. Collecting advance fees for entire program of study or for more than one semester/year in which a student is enrolled is strictly prohibited as it restricts the student from exercising other options of enrolment elsewhere. This enabling provision is in line with the UGC guidelines on Choice-Based Credit System (CBCS) and Model Curricula which are geared towards promoting a student's inter-institutional mobility.
- 4.2.3 If a student chooses to withdraw from the program of study in which he/she is enrolled, the institution concerned shall follow the following four-tier system for the refund of fees remitted by the student.



Sr. No	Percentage of Refund of Aggregate fees*	Point of time when notice of withdrawal of admission is served to HEI
(1)	100%	15 days before the formally-notified last date of admission
(2)	80%	Not more than 15 days after the formally-notified last date of admission
(3)	50%	More than 15 days but less than 30 days after formally-notified last date of admission
(4)	00%	More than 30 days after formally notified last date of admission

\*(Inclusive of course fees and non-tuition fees but exclusive of caution money and security deposit)

4.2.4 In case of (1) in the table above, the HEI concerned shall deduct an amount not more than 10% of the aggregate fees as processing charges from the refundable amount.

4.2.5 Fees shall be refunded by all HEIs to an eligible student within fifteen days from the date of receiving a written application from him/her in this regard.

4.3.1 All universities shall mandatorily constitute a "Grievance Redressal Committee" (GRC) mandated by UGC (Grievance Redressal) Regulations 2012 to address and effectively resolve complaints, representations and grievances related to any of the issues mentioned in this notification, among others articulated in the regulations. The GRC shall do all it takes to ensure that its

4.3 Constitution and Functions of Grievance Redressal Committee (GRC) departments and affiliated colleges unflinchingly comply with all the instructions articulated in this notification.

4.3.2 The GRC shall follow procedures outlined in UGC (Grievance Redressal) Regulations 2012 for resolution of the students' grievances in above matters.

5. Punitive Actions by Commission against defaulting HEIs

5.1 Any act of retention of original certificate or non-refund of fee by any college shall be deemed to have been committed by the affiliating university which shall only be liable for punitive action by the UGC.

5.2 On receiving any complaint from students or aggrieved person on any of the issues outlined in this notification, the Commission shall forward it to the GRC of the university concerned for feedback.

5.3 The GRC of the university concerned shall furnish to Commission the "Action Taken Report" and/or status of the grievance resolution within a period of twenty days from the date of receipt of the Commission's missive.

5.4 On basis of the feedback of the GRC, if the Commission feels the defaulting HEI is wilfully contravening the provisions contained in this Notification, it shall take all such punitive actions as notified in Regulation 9 of UGC (Grievance Redressal) Regulations 2012 against the defaulting HEIs.

5.5 Additionally, the Commission shall write to accreditation agencies about the misconduct and malpractices of the erring HEI with the request to take all such actions as deemed fit by them to ensure compliance.

(Jaspal S. Sandhu)  
Secretary

## 15.CONDUCT AND DISCIPLINE :

If any student is found indulging in anti national activities, or in activities that run contrary to the letter and spirit of the provisions of Acts and Laws enforced by the Government, or any activity that causes his/her behavior to be contrary to rules of discipline, will be liable to be expelled from the College forthwith without any notice by the Principal of the College.

If any of the statements made in application form or any information supplied by the candidate in connection with his/her admission is, at any time, found to be false or incorrect and willful suppression of facts, his/her admission will be cancelled forthwith. The fees will be forfeited and he/she may be expelled from the College by the Principal and prosecuted, if deemed necessary.

Each of the candidates seeking admission in the institute is required to give the following undertaking at the time of admission:-

- A) " I have read all the Rules of Admission for the current year and after fully understanding these rules, I have filled in this application form for admission for the current year.
- B) The information given by me in my application is true to the best of my knowledge and belief.
- C) I have not been debarred from appearing at any examination conducted by any Government constituted or Statuary autonomous examination authority in India.
- D) I fully understand that the Director of the Institute will have right to expel, rusticate me from the College for any infringement of the Rules of good conduct and discipline in general and particularly the ones referred to above and the rules of good conduct and discipline prescribed by the College/ University and in the undertaking given above."



## 16. MISCELLANEOUS :

The candidates are informed that the medium of instruction, for all programmes is English.

- At the time of seeking admissions, a candidate will be provisionally admitted to Programme at the College subject to the production of the Provisional Eligibility Certificate from the University.
- The College shall have the right to satisfy about the conduct and character of a candidate by verifying antecedents of a candidate through the appropriate police-authority, before admitting him/her to the College.
- The Attention of the candidates is particularly invited to the provisions of rules regarding the eligibility of candidates for admission to the B.TECH. (ENGINEERING) Programme. If at any stage it is found that a candidate is not eligible either for admission to CET (ENGINEERING) or B.TECH. (ENGINEERING) Programme, his/her candidature and admission even if granted provisionally will be cancelled forthwith.
- Differences of opinion and disputes arising in the interpretation and implementation of the clauses in this Brochure, if any, will be referred to the Vice-Chancellor of the Bharati Vidyapeeth (Deemed to be University), Pune and his decision shall be final and binding on all the concerned.

### Court Jurisdiction

Any legal matters arising out of the entire admission process through Common Entrance Test conducted by Bharati Vidyapeeth (Deemed to be University) , Pune-30 i.e. CET (Engineering)-2018 will be in the jurisdiction of courts of Pune, Maharashtra State.

## Recommended Syllabus For CET (Engineering)-2018

## MATHEMATICS

1. Trigonometry	Angle and its measurements, Standard angles, Angles in quadrant and quadrantal angles, Relation between degree measure and radian measure, Length of arc of a circle, Area of sector, Trigonometric ratios : Trigonometric ratios of any angle, Signs of Trigonometric ratios in different quadrants, Fundamental identities , Trigonometric ratios of compound angles, Trigonometric ratios of allied angles, Trigonometric ratios of multiple angles, Trigonometric ratios of half angles, Factorization and Defactorization formulae , Sum and difference of two angles , Properties of Triangle : Trigonometric ratios of angles of a triangle, Cosine rule, Sine rule, Projection rule, Inverse Circular functions : Properties of inverse circular functions. General solution of Trigonometric equations. Area of triangle.
2. Determinant	Determinant of order 3, (Expansion and Properties), Cramer's rule, Condition of consistency, Area of a triangle.
3. Sets, Relations and Functions	Review of set theory, Power set, Cartesian product, Relations, Functions, Types of functions, Graphs of functions, Composite function, Inverse function, Constant function.
4. Logarithm	Introduction and definition, Laws of logarithm with proof, Change of base, Numerical Problems.
5. Complex Numbers	Complex Number in the form $a+ib$ , Modulus, Complex Conjugate, Argument of Complex Number, Algebra of Complex numbers, Square roots of Complex numbers, Argand diagram.
6. Quadratic Equations	Roots of equation, Nature of roots, Sum and product of roots, Formation of quadratic equation, Symmetric functions of roots, Complex cube roots of unity.
7. Sequences and Series	Arithmetic Progression, Geometric progression, Harmonic progression, Arithmetic mean, Geometric mean, Harmonic mean , Special series : $\sum n$ , $\sum n^2$ , $\sum n^3$ and their uses.
8. Permutations and Combinations	Factorial Notation, Properties of $n!$ , Fundamental Principle of Counting, Permutations, Permutations of repeated objects, Circular permutation, Combinations, Relation between permutations and combinations, Properties of combination.

9.	Mathematical Induction and Binomial Theorem	Principle of Mathematical Induction and its applications, Binomial Theorem for, $n \in \mathbb{N}$ (statement only), Obtaining general term in the expansion. Binomial theorem for any index. Binomial coefficients.
10.	Limits & Continuity	Standard Limits, Definitions, Algebra of limits (without proof), Limit at infinity, Continuity of a function at a point, Continuity at a function in the interval, Algebra of continuous functions, Types of discontinuity, Continuity of some standard functions.
11.	Differentiation	Definition of Derivative, Derivatives of (a) Constant functions, (b) Power functions, (c) Trigonometric functions, Derivatives of $\log x$ , $a^x$ , $e^x$ (without proof), Rules of Differentiations : (a) Derivative of sum (b) Derivative of Difference (c) Derivative of product (d) Derivative of Quotient, Derivative from first principle, Relation between continuity and differentiability, Derivative of composite function, Derivative of inverse functions, Derivative of implicit functions, Derivative of parametric functions, Second order derivative.
12.	Applications of Derivatives	Increasing and decreasing functions, Tangent and normal at a point to, a curve, Rate measurer, related rates, Approximations and small errors, Maxima and minima. Problems based on Cauchy's Mean value theorem and Rolle's mean value theorem.
13.	Integration	<p>Definition of an Integral, Integral as a limit of sum, Integrals of some standard functions. Rules of integration. Definite Integrals, Methods of integration., a) Substitution Method., b) Integration by parts., c) Integration by partial fractions., Definite integrals, (a) Fundamental Theorem of integral calculus (without proof)., (b) Properties of definite integrals.</p> <p>Simple integral of the following type:</p> $\int \frac{dx}{x^2 - a^2}, \int \frac{dx}{\sqrt{x^2 - a^2}}, \int \frac{dx}{ax^2 + bx + c}, \int \frac{dx}{\sqrt{ax^2 + bx + c}}$ $\int \frac{px + q}{ax^2 + bx + c} dx, \int \frac{px + q}{\sqrt{ax^2 + bx + c}} dx, \int \sqrt{a^2 - x^2} dx,$ $\int \sqrt{ax^2 + bx + c} dx, \int (px + q)\sqrt{ax^2 + bx + c} dx$
14.	Application of integral	Area under the curve, Volume of solid by revaluation,

15. Differential equations	Definitions of Differential equation, order, degree, General solution and Particular solution., Formation of Differential equation., Solutions of First order and first degree differential equations. a) Variables separable method (b) Homogeneous and non homogeneous differential equations, Applications of Differential equations, Growth and decay. Newton's law of cooling, Half life period, Surface area.
16. Boolean Algebra	Boolean Algebra as an algebraic structure, Principle of duality, Boolean function and switching circuits, Application of Boolean Algebra to switching circuits.
17. Mathematical Logic	Statements, Truth values of statement, Compound statement, Logical connectives and truth table, Statement pattern and logical equivalence, Tautology, Contradiction, Contingency, Applications of logic to switching circuits, Quantifiers and quantified statements, Negation of compound statement, Negation of quantified statement.
18. Matrices	Definition and types of matrices, Algebra of matrices, Elementary transformation and Inverse of Matrix by elementary transformation, Minors and cofactor of elements, Adjoint of matrix, Inverse by adjoint method, Solution of Linear Equations by reduction method and inversion method.
19. Plane Co ordinate Geometry	<p>Locus : definition of locus, Equation of locus, Point of locus, Shift of origin.</p> <p>Line : Definition of line, slope of line, equation of lines in standard forms, general equation, angle between two lines, point of intersection of lines, conditions of concurrent lines, distance of a point from a line, family of lines Pair of straight lines : Pair of lines passing through origin, Pair of lines not passing through origin. Condition that general second degree equation in x and y represents a pair of lines, conditions of parallel lines and perpendicular lines, angle between the lines represented by</p> $ax^2 + 2hxy + by^2 + 2gx + 2fy + c = 0$ <p>Circle : Different forms of Equations of a circle, Standard equation, General equation, Centre radius form, Parametric equation of a circle, Tangent and normal, Equations of tangent and normal, condition of tangency to the standard circle, Director circle, Length of tangent segment, tangent in terms of slope,</p> <p>Conics : Definition of conic, Equations of conics, Focus, Directrix, Eccentricity, Classification of conics, Standard equations of parabola, Ellipse, Hyperbola, Tangents and Normals, Equation of tangent and normal at a point, condition of tangency, tangent in terms of slope. Number of tangents from a point to conic (parabola, Ellipse, Hyperbola). Director circle.</p>

20. Vectors	Scalar and vector, Different types of vectors, Collinear vectors, Co-planar vectors , Algebra of vectors , Addition of vectors, Scalar multiplication of Vectors, Position vectors, Scalar products and its properties, Vector products and its properties, Angle between two vectors, Collinearity and Coplanarity of vectors, Section formula., Midpoint formula, Centroid formula, Scalar triple product., Volume of parallelopiped, Applications of vectors to Geometry. Applications of vectors to mechanics. Vector area of triangle and parallelogram.
21. Three Dimensional Geometry	<p>Direction Cosines and Direction Ratios: Relation between direction cosines and direction ratios, Angle between two lines, Condition of perpendicular and parallel lines,</p> <p>Line : Equation of line passing through given point and parallel to given vector, Equation of line passing through given two points, (Vector and Cartesian form), Plane: Equation of plane in different forms, Equation of plane passing through three points, angle between two planes, (Vector and Cartesian form). Distance of line from a point, Skew lines Distance between skew lines. Distance between parallel lines.</p> <p>Plane : Angle between line and plane, coplanarity of two lines. Distance of a point from a plane. Equation of plane passing through the intersection of two planes.</p>
22. Linear Programming	Solution of linear inequalities in one & two variable, Introduction of concepts, Formation of linear programming problem, Graphical solution of linear programming problem. Solution of linear programming problems by graphical methods (a) ISO profit and ISO cost line (b) Corner method.
23. Statistics	<p>Measures of dispersion : Range, Mean Deviation, Variance and standard deviation, Quartile deviation,</p> <p>Bivariate frequency Distribution: Tabulation, Correlation, Scatter diagram, Covariance, Karl Pearson's coefficient of correlation.</p> <p>Probability : Events and Algebra of events, Definition of probability, Addition theorem, Multiplication theorem, Conditional probability, Independent events, Baye's theorem, Random variable, Discrete and continuous random variable, Probability distribution of discrete and continuous random variable. Binomial distribution, Bernoulli Trial, Binomial distribution. Condition for Binomial Distribution. Mean and variance of Binomial distribution. Normal distribution. Mean and variance of Normal distribution. Standard Normal variables.</p>

# PHYSICS

## CONTENTS CLASS XI SYLLABUS

### UNIT I: Physical World and Measurement

- **Physics:** Scope and excitement; nature of physical laws; Physics, technology and society.
- *Need for measurement:* Units of measurement; systems of units; SI units, fundamental and derived units. Length, mass and time measurements; accuracy and precision of measuring instruments; errors in measurement; significant figures.
- Dimensions of physical quantities, dimensional analysis and its applications.

### UNIT II: Kinematics

- Frame of reference, Motion in a straight line; Position-time graph, speed and velocity. Uniform and non-uniform motion, average speed and instantaneous velocity. Uniformly accelerated motion, velocity-time and position-time graphs, for uniformly accelerated motion (graphical treatment).
- Elementary concepts of differentiation and integration for describing motion. *Scalar and vector quantities:* Position and displacement vectors, general vectors, general vectors and notation, equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors. Relative velocity.
- Unit vectors. Resolution of a vector in a plane-rectangular components.
- Scalar and Vector products of Vectors. Motion in a plane. Cases of uniform velocity and uniform acceleration- projectile motion. Uniform circular motion.

### UNIT III: Laws of Motion

- Intuitive concept of force. Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion. Law of conservation of linear momentum and its applications.
- Equilibrium of concurrent forces. Static and Kinetic friction, laws of friction, rolling friction, lubrication.
- *Dynamics of uniform circular motion.* Centripetal force, examples of circular motion (vehicle on level circular road, vehicle on banked road).

### UNIT IV: Work, Energy and Power

- Work done by a constant force and variable force; kinetic energy, work-energy theorem, power.
- Notion of potential energy, potential energy of a spring, conservative forces; conservation of mechanical energy (kinetic and potential energies); non-conservative forces; motion in a vertical circle, elastic and inelastic collisions in one and two dimensions.

### UNIT V: Motion of System of Particles and Rigid Body

- Centre of mass of a two-particle system, momentum conservation and centre of mass motion. Centre of mass of a rigid body; centre of mass of uniform rod.
- Moment of a force,-torque, angular momentum, conservation of angular momentum with some examples.
- Equilibrium of rigid bodies, rigid body rotation and equation of rotational motion, comparison of linear and rotational motions; moment of inertia, radius of gyration. Values of M.I. for simple geometrical objects (no derivation). Statement of parallel and perpendicular axes theorems and their applications.

**UNIT VI: Gravitation**

- Kepler's laws of planetary motion. The universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth.
- Gravitational potential energy; gravitational potential. Escape velocity, orbital velocity of a satellite. Geostationary satellites.

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**UNIT VII: Properties of Bulk Matter**

- Elastic behavior, Stress-strain relationship. Hooke's law, Young's modulus, bulk modulus, shear, modulus of rigidity, poisson's ratio; elastic energy.
- Viscosity, Stokes' law, terminal velocity, Reynold's number, streamline and turbulent flow. Critical velocity, Bernoulli's theorem and its applications.
- Surface energy and surface tension, angle of contact, excess of pressure, application of surface tension ideas to drops, bubbles and capillary rise.
- Heat, temperature, thermal expansion; thermal expansion of solids, liquids, and gases. Anomalous expansion. Specific heat capacity:  $C_p$ ,  $C_v$ - calorimetry; change of state – latent heat.
- Heat transfer- conduction and thermal conductivity, convection and radiation. Qualitative ideas of Black Body Radiation, Wein's displacement law, and Green House effect.
- Newton's law of cooling and Stefan's law.

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**UNIT VIII: Thermodynamics**

- Thermal equilibrium and definition of temperature (zeroth law of Thermodynamics). Heat, work and internal energy. First law of thermodynamics. Isothermal and adiabatic processes.
- *Second law of the thermodynamics*: Reversible and irreversible processes. Heat engines and refrigerators.

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**UNIT IX: Behaviour of Perfect Gas and Kinetic Theory**

- Equation of state of a perfect gas, work done on compressing a gas.
- *Kinetic theory of gases*: Assumptions, concept of pressure. Kinetic energy and temperature; degrees of freedom, law of equipartition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path.

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**UNIT X: Oscillations and Waves**

- Periodic motion-period, frequency, displacement as a function of time. Periodic functions. Simple harmonic motion(SHM) and its equation; phase; oscillations of a spring-restoring force and force constant; energy in SHM –Kinetic and potential energies; simple pendulum-derivation of expression for its time period; free, forced and damped oscillations (qualitative ideas only), resonance.
- Wave motion. Longitudinal and transverse waves, speed of wave motion. Displacement relation for a progressive wave. Principle of superposition of waves, reflection of waves, standing waves in strings and organ pipes, fundamental mode and harmonics. Beats. Doppler effect.

## CONTENTS OF CLASS XII SYLLABUS

### UNIT I: Electrostatics

- Electric charges and their conservation. Coulomb's law-force between two point charges, forces between multiple charges; superposition principle and continuous charge distribution.
- Electric field, electric field due to a point charge, electric field lines; electric dipole, electric field due to a dipole; torque on a dipole in a uniform electric field.
- Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside)
- Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges: equipotential surfaces, electrical potential energy of a system of two point charges and of electric dipoles in an electrostatic field.
- Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarization, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor, Van de Graaff generator.

### UNIT II: Current Electricity

- Electric current, flow of electric charges in a metallic conductor, drift velocity and mobility, and their relation with electric current; Ohm's law, electrical resistance,  $V-I$  characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity.
- Carbon resistors, colour code for carbon resistors; series and parallel combinations of resistors; temperature dependence of resistance.
- Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel.
- Kirchhoff's laws and simple applications. Wheatstone bridge, metre bridge.
- Potentiometer-principle and applications to measure potential difference, and for comparing emf of two cells; measurement of internal resistance of a cell.

### UNIT III: Magnetic Effects of Current and Magnetism

- Concept of magnetic field, Oersted's experiment. Biot-Savart law and its application to current carrying circular loop.
- Ampere's law and its applications to infinitely long straight wire, straight and toroidal solenoids. Force on a moving charge in uniform magnetic and electric fields. Cyclotron.
- Force on a current-carrying conductor in a uniform magnetic field. Force between two parallel current-carrying conductors-definition of ampere. Torque experienced by a current loop in a magnetic field; moving coil galvanometer-its current sensitivity and conversion to ammeter and voltmeter.
- Current loop as a magnetic dipole and its magnetic dipole moment. Magnetic dipole moment of a revolving electron. Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis. Torque on a magnetic dipole (bar magnet) in a uniform magnetic field; bar magnet as an equivalent solenoid, magnetic field lines; Earth's magnetic field and magnetic elements.
- Para-, dia- and ferro-magnetic substances, with examples.
- Electromagnetic and factors affecting their strengths. Permanent magnets.

**UNIT IV: Electromagnetic Induction and Alternating Currents**

- Electromagnetic induction; Faraday's law, induced emf and current; Lenz's Law, Eddy currents. Self and mutual inductance.
- Alternating currents, peak and rms value of alternating current/ voltage; reactance and impedance; LC oscillations (qualitative treatment only), LCR series circuit, resonance; power in AC circuits, wattless current.
- AC generator and transformer.

**UNIT V: Electromagnetic Waves**

- Need for displacement current.
- Electromagnetic waves and their characteristics (qualitative ideas only). Transverse nature of electromagnetic waves.
- Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, x-rays, gamma rays) including elementary facts about their uses.

**UNIT VI: Optics**

- Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection and its applications optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lens-maker's formula. Magnification, power of a lens, combination of thin lenses in contact combination of a lens and a mirror. Refraction and dispersion of light through a prism.
- Scattering of light- blue colour of the sky and reddish appearance of the sun at sunrise and sunset.
- *Optical instruments*: Human eye, image formation and accommodation, correction of eye defects (myopia and hypermetropia) using lenses.
- Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.
- *Wave optics*: Wavefront and Huygens' principle, reflection and refraction of plane wave at a plane surface using wavefronts.
- Proof of laws of reflection and refraction using Huygens' principle.
- Interference, Young's double hole experiment and expression for fringe width, coherent sources and sustained interference of light.
- Diffraction due to a single slit, width of central maximum.
- Resolving power of microscopes and astronomical telescopes. Polarisation, plane polarized light; Brewster's law, uses of plane polarized light and Polaroids.

**UNIT VII: Dual Nature of Matter and Radiation**

- Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation- particle nature of light.
- Matter waves- wave nature of particles, de Broglie relation. Davisson-Germer experiment (experimental details should be omitted; only conclusion should be explained).

### UNIT VIII: Atoms and Nuclei

- Alpha- particle scattering experiments; Rutherford's model of atom; Bohr model, energy levels, hydrogen spectrum. Composition and size of nucleus, atomic masses, isotopes, isobars; isotones.
- Radioactivity- alpha, beta and gamma particles/ rays and their properties decay law. Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number, nuclear fission and fusion.

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### UNIT IX: Electronic Devices

- Energy bands in solids (qualitative ideas only), conductors, insulators and semiconductors; semiconductor diode- I-V characteristics in forward and reverse bias, diode as a rectifier; I-V characteristics of LED, photodiode, solar cell, and Zener diode; Zener diode as a voltage regulator. Junction transistor, transistor action, characteristics of a transistor; transistor as an amplifier (common emitter configuration) and oscillator. Logic gates (OR, AND, NOT, NAND and NOR). Transistor as a switch.



**LIST OF DOCUMENTS REQUIRED WHILE REPORTING FOR COUNSELLING  
FOR ADMISSION TO FIRST YEAR OF B.Tech. COURSES  
FOR CET (ENGINEERING)-2018**

At the time of counselling, you are required to submit the following documents in original. Failure to do so will result in instantaneous cancellation of your claim for admission. You are also required to submit two photocopies of each of these documents.

1. Your letter for Counselling
2. For a Proof of date of Birth : SSC Certificate or School/College Leaving Certificate or Certificate of Domicile/Nationality Certificate.
3. A Certificate of the Principal/Headmaster of the School for having studied for 11th and 12th standard in India.
4. Statement of marks of X std examination.
5. Statement of marks of XII std examination.
6. Transfer Certificate from the Institution in which you had studied last.
7. Migration Certificate (for students who joined a course after 12th).
8. Aadhar Card
9. Gap Certificate (for students who joined a course after 12th).
10. Conduct and Character Certificate from a responsible person.
11. Caste certificate. (for SC/ST candidates only)
12. Caste validity certificate issued by competent authority. (for SC/ST candidates only)
13. Certificate of Medical Fitness.
14. Six recent passport-size photographs with your name written on backside.
15. An affidavit in the format given in Annexure III signed by you and countersigned by your parent/guardian in the presence of Notary Public on stamp paper.

Please Note: - Demand draft of Tuition fees, other fees and Hostel fees (in case you are admitted to Hostel) has to be submitted at the time of counselling and admission process.

## IMPORTANT NOTICE

The students and the parents will have to submit the printouts of antiragging undertaking online on the following websites

**website 1: [www.antiragging.in](http://www.antiragging.in)**

**2: [www.amanmovement.org](http://www.amanmovement.org)**

This has to be submitted immediately after the conformation of the admission.

Note :

As per the directions of Hon'ble Supreme Court of India Order No. SLP(C) No. 24295/2004 and SLP No. 143656/2005, WP (C) No. 173/2006 and SLP(C) No. 24296-24299/2004 all the students are hereby informed the following.

"If any incidents of ragging comes to the notice of the authority, the concerned students shall be given liberty to explain and if his explanation is not found satisfactory the authority would expel him from the institution."

All the students should note the above directives from the Supreme Court.

Registrar  
Bharati Vidyapeeth  
(Deemed to be University)  
Pune, India.

## DECLARATION

I, ..... son/daughter of ..... hereby solemnly affirm that the following statements made by me are true to the best of my knowledge and belief,

- A) I am a citizen of India
- B) I have studied in class XI and XII in India and have passed a qualifying examination in the subjects of Physics, Chemistry and Mathematics individually and have obtained at least 50% (45% in case of candidate belonging to reserved category) marks together in those subjects and I have also Passed in the subject of English.
- C) I have studied and understood the rules governing counselling, admission, procedure, fee structure and agree to abide by these rules.
- D) If admitted to any of the Institutions of the Bharati Vidyapeeth (Deemed to be University), I will abide by all its rules and regulations, especially those regarding discipline, attendance, dress code, examinations and payment of fees. I understand that failure to comply with the rules and regulations will invite an appropriate disciplinary action from the institutional authorities.
- E) I will not involve myself in any action of ragging during the course of my education in this University. I understand involvement in ragging would result into cancellation of my admission to the course.

Name of the candidate :

Date :

Place :

Signature of the candidate

I, ..... the father/mother/guardian of ..... an applicant for admission to course at Bharati Vidyapeeth (Deemed to be University), hereby solemnly affirm that all the above statements made by son/daughter/ward are true to the best of my knowledge and belief. I will be responsible for the payment of his/her fees on time and for his/her conduct.

Name of the parent/guardian

Relationship to candidate

Date

Address with Phone No. :

Signature of the parent/guardian

## AUTHORISATION FOR REPRESENTATIVE

I, ....., son /daughter of ....., being unable to attend the counselling session for admission to the B. Tech. courses in June/July 2018, hereby authorise ..... son/daughter of ....., whose photograph is affixed below and who will sign as shown below, to represent me at the counselling and on-the-spot-admission. I hereby declare that the choice of course or branch by this authorised representative will be irrevocable and that it will be final and binding on me. This authorised representative will present all the necessary documents, pay the appropriate fees and complete all the necessary formalities on my behalf.

Name of the candidate :  
(in Capital letters)

Seat No. (B.Tech-2018 Examination)

Place :

Date :

Reason for Absence :

Signature of the Representative

A recent passport size photograph of the representative should be affixed here.

Signature of the Candidate

A recent passport size photograph of the candidate should be affixed here.





# ANSWERS

1	A	B	C	D	51	A	B	C	D	101	A	B	C	D	151	A	B	C	D
2	A	B	C	D	52	A	B	C	D	102	A	B	C	D	152	A	B	C	D
3	A	B	C	D	53	A	B	C	D	103	A	B	C	D	153	A	B	C	D
4	A	B	C	D	54	A	B	C	D	104	A	B	C	D	154	A	B	C	D
5	A	B	C	D	55	A	B	C	D	105	A	B	C	D	155	A	B	C	D
6	A	B	C	D	56	A	B	C	D	106	A	B	C	D	156	A	B	C	D
7	A	B	C	D	57	A	B	C	D	107	A	B	C	D	157	A	B	C	D
8	A	B	C	D	58	A	B	C	D	108	A	B	C	D	158	A	B	C	D
9	A	B	C	D	59	A	B	C	D	109	A	B	C	D	159	A	B	C	D
10	A	B	C	D	60	A	B	C	D	110	A	B	C	D	160	A	B	C	D
11	A	B	C	D	61	A	B	C	D	111	A	B	C	D	161	A	B	C	D
12	A	B	C	D	62	A	B	C	D	112	A	B	C	D	162	A	B	C	D
13	A	B	C	D	63	A	B	C	D	113	A	B	C	D	163	A	B	C	D
14	A	B	C	D	64	A	B	C	D	114	A	B	C	D	164	A	B	C	D
15	A	B	C	D	65	A	B	C	D	115	A	B	C	D	165	A	B	C	D
16	A	B	C	D	66	A	B	C	D	116	A	B	C	D	166	A	B	C	D
17	A	B	C	D	67	A	B	C	D	117	A	B	C	D	167	A	B	C	D
18	A	B	C	D	68	A	B	C	D	118	A	B	C	D	168	A	B	C	D
19	A	B	C	D	69	A	B	C	D	119	A	B	C	D	169	A	B	C	D
20	A	B	C	D	70	A	B	C	D	120	A	B	C	D	170	A	B	C	D
21	A	B	C	D	71	A	B	C	D	121	A	B	C	D	171	A	B	C	D
22	A	B	C	D	72	A	B	C	D	122	A	B	C	D	172	A	B	C	D
23	A	B	C	D	73	A	B	C	D	123	A	B	C	D	173	A	B	C	D
24	A	B	C	D	74	A	B	C	D	124	A	B	C	D	174	A	B	C	D
25	A	B	C	D	75	A	B	C	D	125	A	B	C	D	175	A	B	C	D
26	A	B	C	D	76	A	B	C	D	126	A	B	C	D	176	A	B	C	D
27	A	B	C	D	77	A	B	C	D	127	A	B	C	D	177	A	B	C	D
28	A	B	C	D	78	A	B	C	D	128	A	B	C	D	178	A	B	C	D
29	A	B	C	D	79	A	B	C	D	129	A	B	C	D	179	A	B	C	D
30	A	B	C	D	80	A	B	C	D	130	A	B	C	D	180	A	B	C	D
31	A	B	C	D	81	A	B	C	D	131	A	B	C	D	181	A	B	C	D
32	A	B	C	D	82	A	B	C	D	132	A	B	C	D	182	A	B	C	D
33	A	B	C	D	83	A	B	C	D	133	A	B	C	D	183	A	B	C	D
34	A	B	C	D	84	A	B	C	D	134	A	B	C	D	184	A	B	C	D
35	A	B	C	D	85	A	B	C	D	135	A	B	C	D	185	A	B	C	D
36	A	B	C	D	86	A	B	C	D	136	A	B	C	D	186	A	B	C	D
37	A	B	C	D	87	A	B	C	D	137	A	B	C	D	187	A	B	C	D
38	A	B	C	D	88	A	B	C	D	138	A	B	C	D	188	A	B	C	D
39	A	B	C	D	89	A	B	C	D	139	A	B	C	D	189	A	B	C	D
40	A	B	C	D	90	A	B	C	D	140	A	B	C	D	190	A	B	C	D
41	A	B	C	D	91	A	B	C	D	141	A	B	C	D	191	A	B	C	D
42	A	B	C	D	92	A	B	C	D	142	A	B	C	D	192	A	B	C	D
43	A	B	C	D	93	A	B	C	D	143	A	B	C	D	193	A	B	C	D
44	A	B	C	D	94	A	B	C	D	144	A	B	C	D	194	A	B	C	D
45	A	B	C	D	95	A	B	C	D	145	A	B	C	D	195	A	B	C	D
46	A	B	C	D	96	A	B	C	D	146	A	B	C	D	196	A	B	C	D
47	A	B	C	D	97	A	B	C	D	147	A	B	C	D	197	A	B	C	D
48	A	B	C	D	98	A	B	C	D	148	A	B	C	D	198	A	B	C	D
49	A	B	C	D	99	A	B	C	D	149	A	B	C	D	199	A	B	C	D
50	A	B	C	D	100	A	B	C	D	150	A	B	C	D	200	A	B	C	D

## DESIGNATED CENTRES

**Pune**  
 CET Office :  
 Bharati Vidyapeeth  
 (Deemed to be University)  
 Pune, India.  
 Second Floor, Bharati Vidyapeeth Bhavan,  
 L.B.S. Marg, Pune - 411 030.  
 (ET-Cell contact Tel. No. 020-24407131/132/133/163)  
 Fax No. : 020-24329675 between  
 Mon-Fri : 10.00 to 1.30 and 2.30 to 5.00,  
 Sat : 9.30 to 1.00)

**Delhi**  
 Bharati Vidyapeeth  
 (Deemed to be University)  
 Pune, India  
 Institute of Management & Research,  
 New Delhi  
 A-4, Rohtak Road, Paschim Vihar,  
 Attached to Paschim Vihar  
 (East Metro Station), New Delhi - 110063.  
 Ph. : 011-25285808, 25284396

**Navi Mumbai**  
 Bharati Vidyapeeth's  
**College of Engineering, Navi Mumbai**  
 Sector 7, Near. Kharghar Railway Station,  
 C.B.D., Belapur, Navi Mumbai 400 614.  
 Tel. No. : 022-27571074 / 27572140

For Enquiry - Contact Tel. No. : 020-24407131/132/133/163 Website : [www.bvuniversity.edu.in](http://www.bvuniversity.edu.in) E-Mail : [cet@bharatividyaapeeth.edu](mailto:cet@bharatividyaapeeth.edu)

## COMMON ENTRANCE TEST (ENGINEERING) - 2018 CALENDAR OF EVENTS

- A) Last date for submission of online application form : 21<sup>st</sup> May 2018 up to 17.00 hrs.  
 at : [www.bvuniversity.edu.in](http://www.bvuniversity.edu.in)
- B) Date and time of CET (Engineering) - 2018 : 27<sup>th</sup> May 2018 From 11.00 to 14.00 hrs.
- C) Venue of CET (Engineering) - 2018  
 ● Pune ● New Delhi ● Navi Mumbai ● Hyderabad ● Vadodara  
 ● Indore ● Lucknow ● Bangalore ● Jaipur ● Varanasi ● Chandigarh
- D) Declaration of the merit list : 4<sup>th</sup> June 2018 after 5 p.m.  
 at : [www.bvuniversity.edu.in](http://www.bvuniversity.edu.in)
- E) Counselling and on the spot admission :

Date	Candidates called for Counselling	Time
Regular Category		
18-6-2018	Merit No. 1 to 500	9.30 a.m. onwards
	Merit No. 501 to 1000	1.30 p.m. onwards
19-6-2018	Merit No. 1001 to 1500	9.30 a.m. onwards
	Merit No. 1501 to 2000	1.30 p.m. onwards
20-6-2018	Merit No. 2001 to 2500	9.30 a.m. onwards
	Merit No. 2501 to 3000	1.30 p.m. onwards
21-6-2018	Merit No. 3001 to 3500	9.30 a.m. onwards
	Merit No. 3501 to 4000	1.30 p.m. onwards
22-6-2018	Merit No. 4001 to 5000	10.00 a.m. onwards

Foreign / NRI / PIO / OCI / Institutional Quota	Merit Category
23-06-18	Merit No. 001 to 140

10.00 a.m. onwards

Merit no. above 5001 should see University/ College website for vacancy status

Date	Candidates called for Counselling	Time
Regular Category		
25-6-2018	Merit No. 5001 to 6000	10.00 a.m. onwards
26-6-2018	Merit No. 6001 to 7000	10.00 a.m. onwards
27-6-2018	Merit No. 7001 to 8000	10.00 a.m. onwards

Refer [www.bvucoepune.edu.in](http://www.bvucoepune.edu.in) for vacancy status during counseling period.

Counseling location : BVDU College of Engineering Pune Satara Road, Dhankawadi, Pune 43. Tel. No. : 020 24107390/24107391  
 Fax No. : 020 24372998 Website : [bvucoepune.edu.in](http://bvucoepune.edu.in) Email : [info@bvucoep.edu.in](mailto:info@bvucoep.edu.in)

- F) Classes will commence on : 4<sup>th</sup> July 2018  
 G) Principal will address newly admitted students on : 5<sup>th</sup> July 2018

Entrance test fee along with completed application form is Rs.1700/-(Non Refundable)



**Bharati Vidyapeeth**  
(Deemed to be University)  
Pune, India.

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Bharati Vidyapeeth Bhavan, Lal Bahadur Shastri Marg, Pune - 411 030.

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