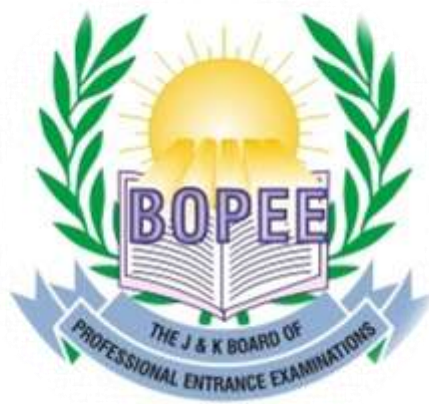


Information Brochure, 2016



THE JAMMU AND KASHMIR
BOARD OF PROFESSIONAL ENTRANCE EXAMINATIONS

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THE JAMMU AND KASHMIR
BOARD OF PROFESSIONAL ENTRANCE EXAMINATIONS

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THE JAMMU AND KASHMIR
BOARD OF PROFESSIONAL ENTRANCE EXAMINATIONS

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MESSAGE

The Jammu and Kashmir Board of Professional Entrance Examinations (BOPEE), has been constituted under the Jammu and Kashmir Board of Professional Entrance Examinations Act, 2002, primarily for conduct of Entrance Tests and making selection of candidates for admission to various undergraduate and postgraduate professional courses in the State.



The Act accords functional autonomy to the Board in the conduct of Entrance Test(s) and making of selection of candidates for various professional courses to ensure that it remains free from any external interference or extraneous consideration(s) in discharge of its statutory functions. Subject to the constitutional provisions and guarantees, the Board will be discharging its statutory obligation in a fair and transparent manner strictly in conformity with the said Act, the Jammu & Kashmir Board of Professional Examinations Rules, 2014, MCI & DCI Regulations. Accordingly, merit alone will prevail in the matter of selections/admissions.

The fast emerging new technologies have impacted all fields of human activity. The Board can thus bring about more efficiency, transparency and speed in organising Entrance Tests and in carrying out subsequent admission processes by adopting new technologies and making their optimum use. It is in tune with this commitment that the Board has decided to extend the facility of video-counselling to the candidates for admission to various professional courses during the year-2016. They will have video-counselling which will save a lot of their precious time, apart from distance and expenditure. The entire process of submission of application forms has been made on-line since 2015. Further, the stakeholders **will get timely and adequate information on the Board's website.**

The stakeholders, particularly the candidates, can easily access information they need concerning Entrance Tests on internet at the time and place convenient to them. Over the years, the website has facilitated and increased the interaction between the functionaries of the Board, the candidates and other stakeholders at large. More importantly, website of the Board has made its functioning and activities more transparent and open to public scrutiny. It is our endeavour to constantly review functioning of the Board and bring further reforms / improvements therein on a regular basis. The Board has decided to pass on the benefits of technology and other reforms / improvements made in recent past to the candidates by slashing the fees of candidates for admission to various professional course during the current year-2016. The candidates are advised in their own interest to strictly adhere to the instructions in the notifications of BOPEE and follow the time-lines set-therein for different processes.

We shall feel obliged for suggestions and comments from candidates, parents and members of the general public in respect of format and content of the website for widening its scope and reach in days to come as also in the matter of discharge of its statutory functions/obligations by the Board to the satisfaction of all interested persons, particularly the candidates. Constructive suggestions are most welcome but please **don't fiddle with the system. It is in the interest of all to strengthen the system and** any step or suggestion in this behalf will be highly appreciated.

Hope to interact with you at the time of counselling.

G. H. Tantray, IAS (Rtd.)

Chairman

MESSAGE

The Common Entrance Test (CET) meant to select students for Medical and Engineering courses for different Colleges of our State takes hard toil from the aspirants together with their parents of which BOPEE officials are quite conscious. The merit secured by the candidates by burning midnight oil can in no case be tinkered with and will be respected at all cost.



The aspirants are advised to concentrate exclusively on their studies and not to lend ear to rumour mongers and in case of any complaint or clarification, they are advised to approach directly to the Secretary of the BOPEE who will be more than glad to respond.

The candidates are required to fill up their Application Forms strictly according to the Guidelines given in the Brochure. They are advised not to take counselling in this regard from any official of the BOPEE nor has the BOPEE authorised any of its official to guide applicants while filling the Application Form. Any mistake committed by an applicant, while filling the Application Form, may prove very costly and may even deprive him/her a berth which he/she may otherwise get. The candidates are advised to fill up their Application Form in presence of their parents / guardians and the BOPEE will not be responsible for any mistake committed by them under any circumstances what so ever. Nor can the plea of the candidate that he/ she was misguided by the official of the BOPEE will be accepted and this holds true for counselling also which is conducted after declaration of the result.

The conduct of various tests by the BOPEE is a Herculean task which cannot be accomplished without the cooperation of the students and their parents. It has been observed over the period of time that the students some time submit incorrect information or do not furnish some important information and then at a belated stage roam around BOPEE offices in an attempt to provide this information on one pretext or the other. Even some such students resort to litigation as well which derails whole process of admission and results in inordinate delay. Thus, they waste their precious time and money for rectifying a mistake which they could have so easily avoided. The BOPEE values time, money and career of the students which should not be wasted by being carefree at the time of filling of Application Form. They should get the habit of doing things meticulously and should stand upright where they commit a mistake even though inadvertently.

The BOPEE has taken solemn pledge that all the admissions to be recommended by it on the basis of the tests conducted from time to time will be solely based on merit calculated scrupulously in a transparent manner and the aspirants should rest assured that their merit is in the safe hands. The BOPEE officials are trustees of the merit of the candidates which under no circumstances can be bartered away.

Prof. Farooq Ahmad Mir
Controller of Examinations

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1. INTRODUCTION

The Jammu and Kashmir Board of Professional Entrance Examinations (BOPEE) was established by an Act of the State Legislature (Act No. XXV of 2002). Under the Act, the BOPEE is entrusted with the task of conducting entrance tests and recommending candidates for admission to various professional courses in the State of Jammu and Kashmir. These, inter alia, include Medical and Engineering courses.

The Common Entrance Test (CET) -2016 is being conducted for the purpose of determining merit of the students for admission to various professional undergraduate courses like MBBS, BDS, BE, BUMS, BAMS and BPT programmes etc. in the Government run and privately managed institutions of the J&K State. The test will be conducted in accordance with the provisions of the J&K Board of Professional Entrance Examinations Act, 2002 and the Rules and Regulations made there under; Jammu and Kashmir Reservation Act, 2004, J&K Reservation Rules, 2005, MCI, DCI, AICTE and AYUSH Regulations/Guidelines issued from time to time and other relevant rules, orders, notifications and directions issued or to be issued by the Government of Jammu and Kashmir or by any regulating body.

The Electronic Information Brochure has been prepared to provide information to the candidates of the CET, right from the issuance of admission notification upto final selection for admission to various professional courses. The most crucial step is the filling up of the Application Form which the candidates must do very meticulously. The selections are recommended according to the choice for courses and the Colleges/Institutions indicated by the applicant in his/her Counselling Form in order of merit secured in the CET. The candidates should, therefore, carefully go through the E-Information Brochure before filling their online Application Form. Any error at the initial stage may not get rectified later on and this may prove very costly to a promising student.

2. TERMS AND EXPRESSIONS

Certain terms and expressions used in the Information Brochure have specific meaning unless, of course, the context otherwise denotes. For the benefit of the candidates, these terms and expressions are briefly defined hereinafter:-

- I. **Advertisement Notification:** means the notification issued by the BOPEE for inviting online Applications from the eligible candidates for appearing in the CET-2016;
- II. **Application Form:** means the online Application Form available on the official website of the BOPEE to be submitted by the eligible candidates for appearing in the CET;
- III. **Available Seats:** mean the seats against which admissions are ordered by the Government of Jammu & Kashmir;
- IV. **CET:** means the Common Entrance Test for selecting candidates for various Medical and Engineering Courses;
- V. **Eligible Candidate:** means a candidate who fulfills the requirements of eligibility as prescribed by the BOPEE, the State Government, Affiliating Universities and other regulating agencies viz. MCI, DCI, AICTE, AYUSH etc.;
- VI. **Incomplete Form:** means the Application Form/Confirmation Page which is without any required documentary proof or is wrongly filled in or contains false information of any kind or not having required and /or valid certificates or has any other deficiency and discrepancy whatsoever;
- VII. **Merit List:** means the list of candidates, who appear in the CET, drawn up in the descending order of inter-se-merit;

- VIII. **Private Educational Institutions:** Means the Institutions / Colleges established and or administered by registered societies, public trusts or religious and charitable trusts offering professional courses and duly approved/recognised by the Government of Jammu and Kashmir and regulating bodies such as MCI / DCI/ AICTE/ AYUSH, as the case may be;
- IX. **Qualifying Examination:** Means the 10+2 or equivalent examination passed from a Government recognized Board on the basis of which candidates become eligible to appear in the CET;
- X. **Rules:** mean the Jammu and Kashmir Board of Professional Entrance Examination Rules-2014; and
- XI. **Regulations** means the Jammu & Kashmir Board of Professional Entrance Examination Regulations, 2016.

3. GENERAL INFORMATION & INSTRUCTIONS

It is expected that the candidates shall be sincere, honest and behave responsibly while appearing in the entrance examination and shall not resort to any unfair/fraudulent means or impersonation in the examination. In case a candidate is found resorting to such acts, criminal proceedings shall be initiated against him/her including his/her abettors/facilitators, besides debarring him / her permanently from appearing in the Entrance Test in future.

- 1) The candidates interested in appearing in the CET are required to:
 - a. go through E-Information Brochure carefully and acquaint themselves with all the requirements;
 - b. satisfy the prescribed eligibility conditions; and
 - c. submit online Application Form within the prescribed date.
- 2) The candidates applying for admission will be required to appear in the CET at their own expenses.
- 3) The recommendation for selection of the candidates in all the categories shall be subject to production of all the relevant certificates in original by the candidates and the verification of the same by BOPEE/College/University.
- 4) No intimation whatsoever about non-selection will be sent individually and no correspondence in this regard shall be entertained. The result will, however, be available in both the offices of the BOPEE at Jammu and Srinagar for information and perusal of the candidates. The result will **also be available on BOPEE's website: www.jakbopee.org / www.jakbopee.net**
- 5) The selection made by the BOPEE to the professional courses shall be provisional till final determination of eligibility of the candidates by the concerned University/ College.
- 6) The BOPEE shall have power to review the provisional selection list at any time, notwithstanding the fact that the selected candidate has completed his/her admission formalities, where any bonafide error, lapse, mistake, fraud, cheating, misrepresentation, misinterpretation, impersonation or glaring injustice comes to its knowledge or is brought to its notice which has resulted in the inclusion of the candidate in the selection list. Mere selection in the list does not confer any right to admission of the candidate, if he/she is otherwise found ineligible.
- 7) Complaints against certificates, including those of reserved categories, will not be entertained as BOPEE is neither an appellate authority nor an investigating agency.
- 8) Permission of candidates to appear in the CET shall be provisional, subject to their being eligible for admission to the courses for which he/she has applied.

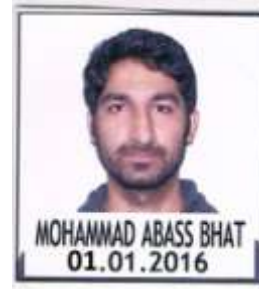
- 9) **The answer key will be displayed on the BOPEE'S website in the evening on** conclusion of last meeting of the test and will remain there for three days and thereafter will be removed. The candidates who have any complaint against an answer of a question in the Question Paper are free to make written representation supported by documentary proof of standard text Books on the prescribed format available on the official website of BOPEE and in the BOPEE office at Srinagar/Jammu accompanied by the payment receipt of rupees 1000 paid by him/her at POS terminal at J&K BOPEE Srinagar/Jammu which should reach in the office (Srinagar/ Jammu) within three working days after the Key is made available and thereafter no representation will be entertained/accepted.
- 10) The Answer Key will be got re-examined by the BOPEE on the basis of the representations so received and the revised key, if any, will be final and no complaint will be then entertained regarding the revised key. The revised Key will be uploaded on the website of the BOPEE. The revised Answer Key, if any, will be applied to Answer Sheets of all the candidates no matter whether they have made such representations or not.
- 11) OMR Answer Sheets of candidates are machine graded and scanned / scrutinized and double checked with extreme care. As such, there shall be no re-evaluation/ rechecking of OMR Answer Sheets. No correspondence in this regard shall be entertained.
- 12) Re- totaling of marks will be allowed on written request along with payment receipt of Rs. 1000/- paid at the POS terminal at BOPEE office Srinagar/Jammu. The application will be received within 5 days after the declaration of result. Any application received after the stipulated time will not be entertained.

Instruction for Photographs

Candidates must also follow the following instructions:

- a. Please ensure that the photograph is taken in a light coloured background.
- b. The photograph/signature/thumb-impression images to be uploaded in JPG/JPEG format.
- c. The maximum size of the photograph to be 500 KB and for signature/thumb-impression to be 200 KB.
- d. Photographs must be snapped on or after 01-01-2016.
- e. Photograph must be taken with name of candidate (as written in Application Form).
- f. The photograph must be snapped with a placard indicating name of candidate and date of taking photograph. In case name and date are written on the photograph after taking it, the application will be rejected.
- g. The name and date on the photograph must be clear and legible.

Sample Photograph:



h. Photograph should be without a cap and goggles. However, spectacles are allowed.

4. ELIGIBILITY FOR ADMISSION

The candidates applying for CET must fulfill the following eligibility conditions:

- 1) They must:
 - a) be permanent residents of J&K State as defined in Section 6 of the Constitution of J&K;
 - b) have passed Hr. Sec. Part II (12th / 10+2) or an equivalent examination from a recognized statutory Board/University;
 - c) have obtained 50% marks in aggregate in 10+2 examination in case of open merit category and 40% in aggregate for reserved categories subject to provisions of Reservation Rules / MCI & DCI Regulations, as the case may be;
 - d) have passed 10+2 examination with English, Physics, Chemistry and Mathematics as their elective subjects in case of admission to Bachelor of Engineering Courses; and
 - e) have passed 10+2 examination with English, Physics, Chemistry and Biology, as elective subjects for admission to MBBS, BDS, Physiotherapy, BAMS/ BUMS etc.
- 2) The candidates appearing / appeared in 10+2 (12th class) Annual Examination can also apply to appear in CET-2016. However, such candidates have to produce their original marks cards at the time of counselling, if they figure in the list of the candidates called for counselling. If a candidate has been called for counselling but has failed to secure required percentage of marks in the qualifying examination, he/she shall not be considered for admission.
- 3) The candidates must be at least 17 years old on or before December 31, 2016 if he/she applies to appear in CET-2016 for admission to MBBS, BDS, BAMS and BUMS Courses. For removal of any doubt, a candidate born on or after 2nd January, 2000 is not eligible to appear in CET.
- 4) The candidates applying under TFW or P&B category are open merit candidates. They must fulfill eligibility conditions meant for open merit candidates.
- 5) Open Merit candidates seeking admission to MBBS and BDS course must have passed in the subjects of Physics, Chemistry, Biology and English individually and must have obtained a minimum of 50% marks taken together in Physics, Chemistry and Biology at the qualifying examination and in addition must have come in the merit list prepared as a result of CET by securing not less than 50% marks in Physics, Chemistry and Biology taken together in the. In respect of candidates belonging to Scheduled Castes, Scheduled Tribes or other Backward Classes the marks obtained in Physics, Chemistry and Biology taken together in qualifying examination and competitive entrance examination be 40% instead of 50%. In conformity with the provisions of Reservation Rules and MCI/DCI Regulations, as the case may be.

5. RESERVATION AND CATEGORY CODES

(1).The reservation is applicable only in Government-run Colleges / Institutions in the State as notified by the J&K Government. The percentage of seats to be allotted to each category shall be as under:

S. No.	Categories	Category Codes	Reservation in %age
1	Open Merit (OM)	06	50
2	Reserved Categories		
2.1	Scheduled Caste (SC)	07	08
2.2	Scheduled Tribes		
2.2.1	Scheduled Tribe, Gujjar & Bakerwal (STGB)	08	06
2.2.2	Scheduled Tribe, Leh District (STL)	09	02
2.2.3	Scheduled Tribe, Kargil District (STK)	10	02
2.2.4	Other Scheduled Tribes (STO)	11	01
2.3	Socially and Educationally Backward Classes		
2.3.1	Weak and Under Privileged Classes, Social Castes (OSC)	12	02
2.3.2	Residents of Backward Area (RBA)	13	20
2.3.3	Residents of Area Adjoining Actual Line of Control (ALC)	14	03
2.4	Children of Defense Personnel (CDP) * (State Subjects only)	15	03
2.5	Candidates possessing outstanding proficiency in Sports (SP)**	16	02
2.6	Children of State Police Personnel and Paramilitary Forces (JKPM)	17	01
2.7	Poor and Backward Families (P&B)	18	Notified against colleges/courses, wherever applicable
2.8	Tuition fee Waiver Scheme (TFW) ***	19	05 of sanctioned intake capacity
3.	TFW and P&B	20	

The category Certificates should be on the prescribed format.

(2)Rules 5 and 6 of the JK BOPEE Rules,2014 deal with reservation of candidates for admission to various professional Courses. These Rules pertain to the candidates of CET also who claim benefit of the reserved category. These two rules have been reproduced verbatim hereinafter for the benefit of the candidates. They are advised to go through these Rules before they attempt to fill up their online Application Form.

(3). Reservation for candidates for admission to various Professional Courses:

- i. The reservation of admissions shall be applicable only in Government-run colleges as notified by the Government from time to time, unless otherwise prescribed specifically or notified for any private College.
- ii. The percentage of seats to be allotted to each category shall be such as notified by the Government from time to time.

- iii. The benefit of reservation shall be available to the concerned candidate only if the attested photo copy of the valid reserved category certificate is uploaded with the Application Form and Category Code is mentioned in the original online Application Form at the time of its submission before the expiry of the last date.
- iv. Where a category certificate has not been issued by the designated authority, the candidate shall not be given an opportunity to validate it after the expiry of the last date for submission of the Application Form.
- v. No notice shall be given to a candidate whose category certificate has been found invalid by the BOPEE and such a candidate shall be considered in open merit, if found otherwise eligible.
- vi. The category certificate issued after the expiry of the last date shall in no case be accepted.
- vii. No under process certificate shall be accepted/ entertained at any cost. It includes under process certificate for the renewal of category certificate.
- viii. The category certificate must be valid at the time of submission of online Application Form as well as at the time of Counselling in the BOPEE office. Where a candidate has valid category certificate at the time of submission of the form but its validity period is to expire before the date of counselling, such candidate shall get his certificate renewed by or before the date of counselling, otherwise he/she will not get benefit of the category.
- ix. Where a candidate fails to upload reserved category certificate along with the "Application Form", **his/her application will be considered under Open Merit category**, if found otherwise eligible.
- x. A candidate can apply/opt for one reserved category only and choice regarding reserved category once exercised shall be final and at no stage shall be allowed to be changed.
- xi. A candidate will be considered only for one reserved category for selection against the seats reserved for that category for which code has been recorded at relevant Serial No. of the Application Form even if he/she is eligible to be considered for seats available in more than one category.
- xii. The BOPEE incorporates the seat matrix as far as possible in the Brochure for each course in the year.

(4). Competent authority: (i) Authorities competent for issuing reserved category certificates shall be such as notified by the Government from time to time: Provided that in the case of Children of Defense Personnel other than core service, a candidate having a certificate that his/her father is working in Defense Establishment (Military Engineering Service or other service of like nature) where salary is paid out from Defense Estimates is not entitled to the benefit of CDP Category.

(ii) Where this certificate is wrongly accepted and the candidate gets admission on the basis of this certificate, the admission of such candidate will be cancelled as and when this wrong/ mistake comes to the knowledge of BOPEE or brought to its notice:

Provided **further that the candidates having "Outstanding Proficiency in Sports" must submit their certificates to the Secretary, J& K Sports Council for awarding points which will be then officially forwarded to the BOPEE by the Sports Council.** The BOPEE shall not be responsible where a candidate fails to submit certificates to the Council or Council fails to forward the points of a candidate to the BOPEE. It shall be the sole responsibility of the candidate to ensure that his/her sports points are forwarded by the Council to the BOPEE. The sports category candidates must upload one set of the sports category certificates within the last date prescribed for submission of the forms in the admission notification to be issued separately.

(iii) The Children of serving BSF, CRPF, ITBP and CISF do not fall under CDP category but fall under the category of JKPM for which Category Code is different. The candidates claiming benefit of any of

these categories must ensure under which category they fall and should accordingly enter the Category Code.

- (iv) In the Government Medical and Dental Colleges, 50% of seats under all the categories are reserved for female candidates. The seats will be filled strictly in accordance with the provisions of J&K Reservation Act No. (XIV) of 2004 and Reservation Rules, 2005 and notification, if any, issued by the Govt. in this regard from time to time and odd seats will be rotated between male and female.
- (v) The category candidates should ensure that their reserved category certificate is issued by the designated competent authority and is uploaded with the Online Application Form strictly in accordance with the Guidelines given in the E-Brochure. All the category certificates issued/dated after October, 2005 must be issued under SRO 294 of 2005. The certificates issued under earlier SRO will be accepted only if they are dated prior to October, 2005. The candidates should insist on the certificate issuing authority to make mention of SRO 294 in their certificates if they are issued after October, 2005.
- (vi) Where a category certificate has not been issued by the designated competent authority, the candidate will not be given an opportunity to validate it after the expiry of the last date for submission of the online Application Form. No notice will be given to a candidate whose category certificate has been found invalid by the BOPEE and such a candidate will be considered in open merit, if found otherwise eligible.
- (vii) The certificate issued after the last date for submission of Application Form is over will not be accepted.
- (viii) No person in the BOPEE is authorised to guide any applicant. The information furnished by the applicant in the online Application Form/ Confirmation Page shall be deemed to have been given by him/ her.
- (ix) It has been observed that candidates **often get confused with 'SC' and 'OSC' reserved categories** and enter incorrect Code numbers in their Application Forms. **It is hereby made clear that 'SC' stands for "Scheduled Caste" category and 'OSC' stands for "Other Social Castes", which has a different category Code than 'SC' given in Brochure.**
- (x) Limited number of seats are available in MBBS/ Indian System of Medicine/Physiotherapy in private Professional Colleges which are allocated on merit to the children of Poor and Backward families whose annual income does not exceed Rs. 70,000/- (Rupees Seventy thousand only) **Annexure-II**. Similarly, 5% seats, over and above intake capacity, in Engineering courses are available for the candidates whose parent's annual income from all sources is less than rupees 4,50,000. Format of income Certificate is given at **Annexure-III**.
- (xi) A candidate having valid P&B Certificate can make use of the same certificate for claiming benefit of TFW Certificate.

(xii) Central Pool Seats

The BOPEE is receiving Central Pool seats of varying numbers from different Ministries every year which have to be allotted in order of merit secured in the CET to the candidates falling in either of the following categories; namely:-

S.No.	Category	Documents required	Designated Authority	Authenticating Authority
1	Children of Families where a parent or direct member of the family has been killed in acts of terrorism or has been an innocent victim in cross firing or in firing by armed forces in combating terrorism.	FIR, Death Certificate, Post Mortem Report and Affidavit that no other member of the family has got benefit of this category	SHO and Hospital Concerned Countersigned by SSP Concerned	Principal Secretary/Commissioner Secretary to Government Department of Home Affairs
2	Children of such persons who are exposed to substantive risk due to their assignment mainly related to combating acts of terrorism; added weightage is to be given to persons who have come in the hit list of terrorist organization	Certificate of threat perception Affidavit that no other member of his/her family has got benefit of this category	DIG (CID) on the basis of the report received through proper channel initiated by the SHO concerned after receiving application from the person claiming benefit of this category	Principal Secretary/Commissioner Secretary to Government Department of Home Affairs
3	Children of such families of both Muslims and non-Muslims who have migrated from Kashmir due to the current situation and have lost their means of livelihood including their business or use of their property.	Certificate of Migration, loss of property, Business and livelihood Affidavit that no other member of his/her family has got benefit of this category	Supporting documents for loss of Property(FIR etc) Migrant certificate from the Concerned Relief Commissioner	Principal Secretary/Commissioner Secretary to Government Department of Home Affairs

- I. The seats for the Central Pool in Medical / Dental Colleges outside the State will be notified separately and recommendation of the candidates for selection will depend upon the seats made available by the Government of India / Govt. of other States and will also be subject to such conditions as may be prescribed by the State/Central Government.
- II. Selection of the candidates under Central Pool Category shall be made on the basis of merit secured in CET 2016 i.e; only those candidates shall be considered for allotment of seats under Central Pool Category who have qualified CET -2016.

6. FEE STRUCTURE (Tentative)

The fee structure has been furnished by the respective College authorities and the BOPEE is not in any way associated with it and has, therefore, no responsibility, if the fee is raised subsequently. The candidates are advised to enquire, in their own interest, the actual fee to be charged, from the College authorities.

Note: The candidates seeking admission in BAMS in Jammu Institute of Ayurveda and Research, are required to deposit refundable security amount of Rs. 10,000.00 only once for the full training course at the time of admission.

courses		(Govt. Seats)		children of P & B families
1.	MBBS	I) Govt. Medical College, Srinagar II) Govt. Medical College, Jammu III) Shere-e-Kashmir Institute of Medical Sciences, Soura, Srinagar IV) Achariya Shree Chandra College of Medical Sciences, Jammu	Rs. 10,000.00	Rs. 3,50,000.00 per annum Rs. 30,000.00 per annum
2.	B.D.S	i) Govt. Dental College, Srinagar ii) Govt. Dental College, Jammu iii) Institute of Dental Science, Sehora, Jammu.	Rs. 10,000.00 per annum	Rs. 1,72,500.00 per annum
3.	BAMS	Jammu Institute of Ayurveda and Research, Jammu		Rs. 82,500.00 Per annum Rs. 10,000.00 per annum
4.	BUMS	Kashmir Tibbia College Hospital & Research Centre, Taleemabad, Shilvath, Sonawari, Tehsil Sumbal, District Baddipora J&K-193501		Rs. 86,400/- (including Rs. 20000/- Development fee) Rs. 10,000.00 per annum
5.	BUMS	Institute of Asian Medical Sciences, Zakura, Srinagar.		Rs.72,000/- (including Rs. 20000/- Development fee) Rs. 10,000.00 per annum
6.	B.P.T	Jammu College of Physiotherapy		Rs. 40,250.00 per annum Rs. 10,000.00 per annum
7.	B.E	i) GCET Jammu = For candidates of J&K Board of School Education = For candidates other than J&K Board of School Education ii) MIET, Jammu iii) SSM College of Engineering, Srinagar iv) MBS College of Engineering & Technology, Jammu	Rs.2,410.00 Rs. 2,690.00 Nil Nil Nil	Rs. 37,000.00 Rs. 37,000.00 Rs. 37,000.00

7. ONLINE APPLICATION FORM

The Application Forms have to be submitted online only through BOPEE websites www.jakbopee.org / www.jakbopee.net (through URL's/ links provided for this purpose) within the prescribed date to be notified separately. The payment of rupees 800 (Rupees eight hundred only) as fee is to be made either online through the HDFC integrated Payment gateway with the help of any national Credit Card/Debit Card facility or by downloading online generated Bank Challan of J&K Bank/HDFC Bank for depositing the fee amount in any branch of J&K Bank or HDFC Bank directly in the BOPEE Accounts. The procedure for filing Application Form and eligibility etc of the candidates have been given in detail in the E-Brochure. The candidates must necessarily, in their own interest, go through this Brochure before attempting to fill up the online Application Form.

The applicants are advised to fill the online Application Forms on their own or through a responsible person. The applicants can also contact the Help Desk of I.T. Section of BOPEE Jammu/Srinagar on 9596243215, 9596243216, 9596243219, 0191-2470102, 0191-2479371 (Jammu) 9596243217, 9596243218, 0194-2437647, 0194-2433590 (Srinagar) for any assistance/guidance in this regard on any working day within the last date prescribed for submitting Confirmation Page only.

Submission of Online Application Forms

i. The candidates have to submit Online Application Form and upload copies of Permanent Resident Certificate, Marks Certificate, if the result is declared.

ii. The candidates claiming benefit of any reserved category certificate have to indicate it in relevant column along with its code number and have to upload its attested copies along with the Application Form. However, the candidates claiming benefit of any Sports Certificate have to submit their sports certificates to the sports council also within the prescribed date.

iii. The candidates can change/ modify their online Application Form at any time before they submit it. Once the form is submitted, the entries made therein cannot be changed. It is in the interest of the candidate to make double check before submitting the online Application Form. They are advised, in their own interest, not to share their login details with anybody, lest he/she may get an opportunity to change important details in the Application Form.

iv. The online application form has to be submitted as follows

NAME OF THE CANDIDATE (sample)

S	H	O	K	E	T		A	H	M	E	D		D	A	R	
---	---	---	---	---	---	--	---	---	---	---	---	--	---	---	---	--

Father's Name

A	B	D	U	L		R	A	S	H	I	D		D	A	R	
---	---	---	---	---	--	---	---	---	---	---	---	--	---	---	---	--

v. Enter the date, month and year of birth as per English Calendar as recorded in the Matriculation Certificate. Use numerals 01 to 12 for the month, 01 to 31 for the date, and last two digits for the year.

3rd of November, 1994

1	1		0	3		9	4
---	---	--	---	---	--	---	---

10th of February, 1991

0	2		1	0		9	1
---	---	--	---	---	--	---	---

vi. A candidate will be considered for only one reserved category for selection even if he/she has more than one reserved category and the category that will be considered will be the one whose category code has been recorded at relevant Serial No. of the Application Form. For example, if an applicant is a ward of a Police personnel (Code 17), and also hails from a Backward Area (Code 13) and belongs to Scheduled Caste too (Code 07) and he/she indicates **Code. '07' at the relevant Serial No. of the Application Form**, the candidate shall be considered for selection against the available seat for Scheduled Caste category only and his/her no other category will be considered.

vii. At no stage the category option once exercised in the Application Form will be changed.

i. Certificates to be produced

i. The candidates have to produce the following documents in original at the time of counselling provided they figure in the list of the candidates called for counselling.

- Certificate of permanent residence.
- Marks certificate of the qualifying examination issued by the concerned Board.
- Matriculation or equivalent examination certificate indicating Date of Birth.
- Category certificate(s).
- Copy of challan, wherever fees is paid through challan.

INSTRUCTIONS and PROCEDURE FOR FILLING UP ONLINE APPLICATION FORM

- 1) Candidate must read the instructions and procedure carefully before filling up the Online Application Form.
- 2) Application Form will be accepted Online ONLY.
- 3) Payment of Application Fee of Rs. 800 will be through HDFC Payment Gateway integrated with the online Application Form. Candidate can make payment via any Credit Card/Debit Card or by downloading online generated Bank Challan of J&K Bank/HDFC Bank for depositing the fee amount in any branch of J&K Bank or HDFC Bank directly in the BOPEE Accounts. Please note that once an Application form is completely submitted, no changes will be allowed on the Application Form. Under any such arising situation, candidate will be required to make fresh application with a new payment of Rs. 800.
- 4) After successful submission of Online Application Form, a provisional Registration Slip having Application Number and all candidate details will be generated. Candidate may take a print-out of the same and retain for future admission procedure.
- 5) Login to www.jkbopee.in to apply online. Candidate may click the link Common Entrance Test – 2016 to apply online.
- 6) Before applying online, candidate must ensure he/she has scanned image of his photograph, signature and thumb-impression in JPEG/JPG format scanned copies of Marks Sheet, Permanent Resident Certificate and Reserved Category Certificate saved on the computer. Candidate should also have his /her payment mode details handy. The size of the photograph should not exceed 500 Kb, and the size of signature and Thumb-impression should not exceed 200 Kb.
- 7) Click on the REGISTER button to create /initiate a fresh application.
- 8) Please enter the required details to generate an application number. Candidate is required to carefully note his/her application number for future reference.
- 9) Once Application Number is generated, candidate is required to LOGIN with Application Number and Date of Birth to complete the form with other details.
- 10) Candidates are required to first make payment for the Application Number generated before proceeding to fill the Application Form Details. THIS IS MANDATORY. Candidate will be directed to opt for the mode of payment. Candidate can either pay through HFDC/J& K Bank Challan or online payment though HDFC Payment Gateway. If the payment is made via Bank Challan, Candidate will be required to enter challan details on the Online Application once the payment is made.
- 11) Candidate will now be directed to upload photo, signature and left thumb impression, certificate images and image of BOPEE'S challan copy.
- 12) Once successfully done, candidate will be shown his complete details as recorded. Candidate is required to thoroughly check all credentials and make corrections (if any) by pressing the MODIFY button.
- 13) The Application Form will be generated for submission and print-out. SUBMIT button will need to be clicked by the candidate.
- 14) Candidate will need to click the LOGOUT button to ensure completion of the Online Application process.

8. ADMIT CARD

- 1) No candidate shall be allowed to enter Test Centre/venue without valid Admit Card.
- 2) Admit card can be downloaded within the prescribed date. However, mere possession of admit card shall not ipso-facto confer eligibility on a candidate who is otherwise ineligible to appear in the CET.
- 3) The Admit Cards will be available online. The candidates are advised to download their Admit Cards from the BOPEE official Websites (www.jakbopee.net or www.jakbopee.org or www.jkbopee.in) on photo paper printed in colour. The candidates will be informed through a separate notification regarding the date for downloading of admit cards. Applicants are therefore advised to keep themselves updated with the information on the official website.
- 4) The candidates are required to paste attested photo on the downloaded Admit Card at the space earmarked on it.
- 5) Applicants, **who don't have internet facility**, may avail this facility at the Help Desk of I.T. Section of BOPEE with prior telephonic appointment, on nominal fee of Rs. 100/=, on any working day at the below mentioned BOPEE offices:
 - i. BOPEE Office, Bhagat-i-Barzullah, opposite J&K Bank, Srinagar-190005 (11 A.M. to 5 P.M.)
 - ii. BOPEE Office, 4th Floor, South Block, Bahu Plaza, Jammu-180012 (11 A.M. to 5 P.M.)
- 6) Candidates shall have to preserve admit card till the allotment of seats/completion of selection/admission process.
- 7) Admit card is an extremely important document. It should not be mutilated, defaced or changed in any manner which makes it doubtful.

Nature of Question Paper

- 1) It shall be the sole responsibility of the candidate to check the Question Booklet before attempting to answer any question. Where a Question Booklet has any missing page, blank page, missed question or damaged or defaced page, it shall be the responsibility of the concerned candidate to bring it into the notice of the concerned invigilator and get it replaced by a new Booklet of the same series. The Question Booklet must have 60 questions per subject. No complaint in this regard shall be entertained by the Board after the conclusion of the examination.
- 2) The question paper shall be objective type containing Multiple Choice Questions (MCQ's). It contains several pages stapled together in one cover. The questions are based on knowledge, understanding and application of the relevant subject that a 10+2 student is expected to know in entrance test meant for admission to Medical and Engineering Courses.
- 3) Do not break the seal containing Question Booklet until you are asked to do so.
- 4) Write your Roll Number on the cover page of the Question Booklet at the space provided for the purpose.
- 5) Candidates should not make any type of marking on the Question Booklet. Paper for rough work is included in the Question Booklet.
- 6) Each question paper has four series, which are in alphabets i.e., A, B, C and D printed on the cover page of the Question Booklet. At the end of the examination, candidates can take the Question Booklets with them.

9. CONDUCT OF ENTRANCE EXAMINATION

- (1) CET shall consist of two (2) papers each of PCB and PCM groups. Paper A shall consist of Physics and Chemistry with 120 questions (60 questions from each subject). Paper B shall be Biology with 60 questions and paper C shall be Mathematics with 60 questions. The questions shall be multiple choice objective type with one mark each. There will be 0.25 negative marks for each wrong answer.
- (2) The details of subject combination, total marks for each paper and time duration are as follows:

I.

Name of the Stream	Number of papers	Paper	Subjects	No of Questions	Time Duration
PCB& PCM	Two	A	Physics, Chemistry (Common Paper)	120	2 Hours
PCB		B	Biology	60	1 Hour
PCM		C	Mathematics	60	1 Hour

(2) Centres of Examination

- The Entrance Test shall be held at the centres as may be notified by the BOPEE in the cities of Srinagar and Jammu only.
- Centres shall be allotted by the BOPEE and the information regarding this shall be provided to the candidates on the admit card.
- The Test Centre once allotted shall not be changed.
- The candidate(s) who may miss first paper can still appear in the remaining paper(s) if he/she so wishes.

(3) OMR Answer Sheet

- It shall be the sole responsibility of the candidate to check the OMR Sheet before attempting to answer any question. Where an OMR Sheet is damaged or defaced page, it shall be the responsibility of the concerned candidate to bring into the notice of the concerned Invigilator and get it replaced by a new OMR Sheet.
- The OMR Sheets (Optical Mark Reader Answer Sheets) are used in order to simplify the procedure for evaluation of the Answer Sheets and also to ensure highest accuracy. Each circle on the OMR Sheet has an alphabetical or numerical value. So a small mistake in shading the round spot on the circle may cost a seat to a candidate. Each OMR Answer Sheet has candidate's carbonless copy along with it. The candidates are advised to separate the **candidate's copy** (carbonless) as per procedure given in the Answer Sheet and take it along after the completion of paper. They are advised to preserve carbonless copy till the counselling for the admission is over. They may be asked to produce carbonless copy of OMR Sheet at any time so it is in their interest not to destroy it.
- The OMR Sheets will be supplied to the candidates in the examination hall.
- There are few blanks in the OMR Answer Sheet, which are to be filled in carefully.
- Write Question Booklet Number, Booklet Series, Paper Code and Roll Number in numerical on the Box meant for this purpose and also darken the appropriate circles. In case of any difficulty, seek the assistance of the invigilating team.
- Write the given "certification statement" in your running handwriting in English and append your signature and left hand thumb impression at the space provided for the purpose on your OMR Sheet. This certificate is to be authenticated by the invigilator and superintendent of the examination centre.

- g. Complete the formalities and wait for the signal to start, tear and open the seal, open the Question Booklet, start reading and answering the questions.
- h. Recording wrong Roll Number. or Question Paper Series or its omission on OMR Sheet shall be done by the candidate at his/her own risk. The candidate must report it within three days after conclusion of the Entrance Test. The BOPEE shall, in no case, entertain thereafter any complaint of the candidate in this regard.
- i. Each question will be provided with four responses as (a), (b), (c), and (d). Indicate the most appropriate answer in the OMR Answer Sheet.

For Example Q.11

Chennai is the capital of the State of:

- 1. Karnataka 2. Tamil Nadu
- 3. Kerala 4. Andhra Pradesh

The correct response is (2). Locate the question number in the OMR Answer Sheet and darken the circle under column (2) as shown below:

A

B

10	①	②	③	④
11	①	●	③	④
12	①	②	③	④
13	①	②	③	④

27	○	●	○	●
28	○	○	●	○
29	○	✓	○	○
30	○	○	×	○
31	●	○	○	○

Correct way of answering

Incorrect way of answering

Ensure that the circle is completely darkened. Incomplete or faintly darkened circle will be rejected by the Optical Scanner and consequently no marks will be awarded for the same. On the contrary, negative marks will be awarded in such a case.

If more than one circle is darkened completely or faintly or any stray or marks is put in or around an oval or if the response is marked in any other manner as shown at "B" it shall be treated as a wrong answer. Even where a candidate finds two options correct, he/she should darken only one circle and shading of both the options will make answer incorrect

- j. In case the candidate does not follow the instructions given on the Answer Sheet, his/her Answer Sheet is likely to be rejected whenever detected.
- k. The information given in the form of numbers or alphabets in the OMR Answer Sheet must correspond with the information given in its Ovals as the machine reads Ovals and not the numbers or alphabets and in case of any variation, the information given in Ovals shall be treated as final. It is, therefore, in the interest of the applicant to check the OMR Sheet meticulously before leaving the examination hall to ensure that there is no discrepancy and in case of any doubt, the assistance of the invigilating staff may be sought.

10. TIME SCHEDULE FOR THE CANDIDATES IN THE EXAMINATION HALL

Day One [Paper-'A' [PHYSICS AND CHEMISTRY]

Morning Session	Work Schedule
10:25 A.M.	Reporting time in the Examination Hall
10:30 A.M.	The invigilator shall ascertain the identity of each candidate by comparing his/her facial appearance with the photographs given on the admit card, and attendance sheet. The centre Superintendent shall also check the identity of the candidates and ensure that only the genuine candidates have been allowed to sit in the examination hall and there is no case of impersonation.
10:45 A.M.	Candidates will be given OMR Answer Sheets. They will go through instructions on the Answer Sheet.
10:55 A.M.	They will be given Question Booklet. The Question Booklet number is to be entered on the Answer Sheet.
11 A.M.	They will break open the seal of the Question Booklet and start attempting the questions.
1 PM	Paper- A ends The candidates will remain in their seats till they hand over the Answer Sheets to the invigilator and leave the examination hall only when they are asked to do so.

Day Two [Paper-'B' [BIOLOGY] & Paper-'C' [MATHEMATICS]]

Morning Session [Paper 'B']	Evening Session [Paper 'C']	Work Schedule
10:25 A.M.	1 :25 P.M.	Reporting time in the Examination Hall
10:30 A.M.	1:30 P.M.	The invigilator shall ascertain the identity of each candidate by comparing his/her facial appearance with the photographs given on the admit card, and attendance sheet. The centre Superintendent shall also check the identity of the candidates and ensure that only the genuine candidates have been allowed to sit in the examination hall and there is no case of impersonation.
10:45 A.M.	1:45 P.M.	Candidates will be given OMR Answer Sheets. They will go through instructions on the Answer Sheet.
10:55 A.M.	1:55 P.M.	They will be given Question Booklet. The Question Booklet number is to be entered on the Answer Sheet.
11 A.M.	2 P.M.	They will break open the seal of the Question Booklet and start attempting the questions.
12 Noon	3:00 P.M.	Papers-B & C End The candidates will remain in their seats till they hand over the Answer Sheets to the invigilator and leave the examination hall only when they are asked to do so.

Note: After distribution of Answer Sheets, no candidate shall be allowed to go out of the examination hall under any circumstances.

11. DETERMINATION OF MERIT

- a. The merit list for each course shall be prepared on the basis of inter-se merit of the candidates in the CET 2016 in the descending order for Open Merit Category and for each Reserved Category, separately.
- b. It shall be necessary for a candidate to obtain at least the minimum qualifying marks in the Entrance Test for the Courses as prescribed for different categories under the Jammu and Kashmir Reservation Rules and the MCI/DCI Regulations, as amended from time to time.
- c. Any subsequent vacancy caused by whatsoever reason in any category, shall be filled from amongst the candidates of that particular category strictly according to merit. In the event of non-availability of eligible candidates from that reserved category, the relevant vacancies shall go to the open merit category.
- d. In case two or more candidates obtain equal merit, the inter-se-merit of such candidates shall be determined as under:
 - i. MBBS / BDS / BAMS / BUMS / Physiotherapy / allied courses.
 1. Candidates obtaining higher marks in Biology in CET.
 2. Candidates obtaining higher marks in Chemistry in CET, if marks in Biology are equal.
 3. Candidates older in age to be preferred if points as per (1) and (2) are equal.
 - ii. B.E. Courses
 1. Candidates obtaining higher marks in Mathematics in CET.
 2. Candidates obtaining higher marks in Physics in CET, if marks in Mathematics are equal.
 3. Candidates older in age to be preferred if points as per (1) and (2) are equal
- e. The BOPEE shall make the answer key available on its website in the evening on the conclusion of last meeting of the examination for students to make representation, if any.
- f. The students can make representation, if any, against any question in the question paper on the prescribed format within a period of three working days upto 4 pm after the conclusion of the Entrance Test on day two.
- g. The representations should be supported by the documentary proof, based on standard text books and accompanied with the payment receipt of Rs. 1000/- per representation per paper paid by him or her at the POS terminal at J&K BOPEE office Sgr./Jammu. The material downloaded from the Internet will not be accepted as it is uploaded without any editorial review.
- h. No representation after the stipulated date shall be accepted because that will delay declaration of result and completion of admission process which has to be concluded within the prescribed time laid down by the **Hon'ble Supreme Court and other regulatory bodies**. The candidates interested in making representation should not wait for separate notification for this purpose and this information shall be deemed as notice to all the concerned candidates. The candidates must obtain a proper receipt in which number of questions represented against, the name of the paper/subject and series will be prominently mentioned. No claim of the candidates will be entertained on this count if he/she is not having receipt of the BOPEE with signature and seal.
- i. The representations shall be consolidated by the BOPEE and will be examined by subject experts whose opinion will be final.
- j. The revised key will be uploaded on the website for general information but no representation will be entertained against revised key so that whole admission process is completed within

the prescribed time schedule and does not protract endlessly. The revised key will be applied for evaluation of all the Answer Sheets including Answer Sheets of those candidates who have not made any representation.

- k. The evaluation of the Answer Sheets is done mechanically so there is no chance of any mistake. The result declared by the machine shall be final and not open to any manual check. It has been noticed that some candidates make faint marks or ambiguous impressions or incomplete marks on the OMR Sheets which are scanned by the machine and the decision of the machine will be final and not subject to any manual check. It is, therefore, in the interest of the candidates to fill up OMR Sheet carefully as shown in this E- Brochure. The re-evaluation of the Answer Sheets manually, therefore, or otherwise, is not allowed as that will impinge upon the rule of equality which calls for uniform treatment given to all the candidates. However, re-totalling of marks will be allowed on written request accompanied by the payment receipt of rupees 1000 paid by him/her at POS terminal at J&K BOPEE Srinagar/Jammu. The application will be received within 03 (three) days after the declaration of result. Any application received after this date shall not be entertained.
- l. Rule 13 of the JK,BOPEE Rules 2014 lays down the procedure relating to incorrect questions which is reproduced verbatim herein below for the benefit of the candidates.

“13. Deletion of invalid questions and methodology in evaluating such questions: If during the course of examination / after the completion of examination but before final stage of evaluation, any question is reported to be admittedly wrong or has wrong options/ more than four options or has all options correct or is having a major printing error in questions/options, such of the questions shall not be evaluated for declaration of results. However, where two answers to a question are correct, the candidates attempting any one of the questions will be awarded marks”

12. DECLARATION OF RESULT

The declaration of credible result free from errors is possible only when the persons involved with processing and evaluation of the OMR Sheets get minimum required time. The candidates are advised to remain patient and every effort will be made to declare the result at the earliest but only after the representations are thoroughly examined by the subject experts.

13. COUNSELLING FOR ALLOTMENT OF DISCIPLINE/INSTITUTION

The candidates, at times, take counselling very lightly and do not join the allotted streams / Institutions of their choice exercised by them during counselling which leads to repeated rounds of counselling, thus delaying the admission process abnormally. Hence, they are advised to participate in counselling process seriously.

- i. Counselling is an extremely important component in the process of selection which affords the candidates an opportunity of indicating their choices/ preferences about allotment of disciplines/institutions. The candidates should make a realistic assessment of the streams which they are likely to get and should exercise options accordingly during counselling on the option form given in [Annexure-VI](#). The candidates must come for counselling along with all documents in original, admit card and a payment receipt of Rs. 500/- paid at the POS terminal at BOPEE office Sgr./Jammu. The fees can also be paid through swap machine available at BOPEE office, Srinagar/Jammu. However, in exceptional cases, where the BOPEE is satisfied

on the basis of documentary proof that the applicant is an orphan or is living in an abject poverty, the fee charged may be refunded if he/she fails to take admission due to some unavoidable reasons beyond his/her control.

- ii. Where a candidate decides in the counselling hall to withdraw his/her counselling form, he /she is entitled to refund of full amount of rupees 500 but not the late fee which he/she may have paid due to missed admission or missed counselling. Withdrawal from counselling is allowed only from first round of counselling.
- iii. The candidates should indicate clearly multiple choices of disciplines / institutions in the counselling form which they want to join in order of preference. For example, if a candidate indicates his options in the following manner:
 - a) MBBS-GMC Jammu
 - b) BDS ,GDC Jammu
 - c) MBBS- GMC Srinagar
 - d) MBBS- SKIMS, Srinagar
 - e) BDS, GDC Srinagar
 - f) MBBS-ASCOMS, Jammu

Such a candidate will be first considered for allotment of MBBS - GMC-Jammu. If on merit, the candidate does not qualify for allotment of such a seat, or no seat is available at his or her turn he/she can then be considered for allotment of BDS at GDC-Jammu, then for MBBS in GMC, Srinagar, then MBBS- SKIMS, Srinagar ,then BDS in GDC Srinagar, and finally for MBBS in ASCOMS. If a candidate is interested in private MBBS as against BDS in Govt. Dental College, he/ she must indicate choice of private MBBS ahead of Govt. BDS

- iv. The selection will be recommended strictly on the basis of merit of eligible candidates determined by the rank obtained in the entrance examination. Allotment of streams / institutions shall be made through counselling. The candidates will be called for counselling one after the other in order of rank for allotment of discipline / institution. Rank wise counselling schedule will be published in two leading English newspapers of the State. It will be also available on the official website of BOPEE.However, this process is subject to the change which the BOPEE may deem proper.
- v. No separate intimation will be sent to individual candidates for appearing in counselling sessions.
- vi. The candidates have to appear personally for counselling. If, however, for some unavoidable reasons, it is not possible for a candidate to appear personally, he / she may send his / her duly authorised representative with admit card, payment receipt from POS terminal of BOPEE, original documents, undertaking and authority letter to the effect that allotment made on the basis of choices indicated by such representative shall be binding on him/ her. Formats of an undertaking and authority letter are given in [Annexure-V](#).
- vii. Where a candidate or his/her representative fails to appear for counselling on the specified date but intends to appear on the next date or any date during subsequent notified counselling schedule, he/she will be allowed to participate in such counselling after furnishing satisfactory justification in writing for such a failure along with payment receipt of Rs. 500/- from POS terminal from BOPEE Srinagar/ Jammu and he/she will be considered for the allotment of course/stream/institution available at that point of time on merit. Such

- candidate shall be required to furnish an undertaking to the effect that he/she voluntarily accepts the available stream/ institution at the time of his/her turn of counselling.
- viii. Where a candidate fails to complete admission formalities within the stipulated time but intends to appear on any date during subsequent notified date of counselling, he/she will be allowed to participate in such counselling after furnishing satisfactory justification in writing for such a failure along with payment receipt of Rs. 500/- from POS terminal at BOPEE Srinagar/ Jammu and he/she will be considered for the allotment of course/stream/institution available at that point of time on merit. Such candidate shall be required to furnish an undertaking to the effect that they voluntarily accept the available stream/ institution at the time of his/her turn of counselling.
- ix. Where a candidate has been kept in the waiting list but his/her seat is not confirmed, he/she is entitled to refund of counselling fee.
- x. Where a candidate or his authorized representative fails to appear for counselling at the time of his/her turn of counselling, his/her seat shall be allotted to the next candidate in order of merit and if the candidate, who has missed the counselling, appears afterwards in the counselling on the same or some other day, he/ she shall be allotted the seat available at that time. *The candidates are advised , in their own interest, not to miss counselling, lest they may lose the seat of their choice which they have earn by their sheer hard labour.*
- xi. Candidates shall have to join the course after allotment of streams/ institutions within the specified time period. Where a candidate does not join the course within the period so prescribed, his/her seat shall automatically stand cancelled and the same shall be filled up as a vacant seat.
- xii. The short fall, if any, of the seats received by the BOPEE from different colleges after first round of counselling shall be filled up in another round of counselling as per the merit and availability of seat.
- xiii. Where a candidate is allotted a seat in the upgradation counselling, his/ her left over seat will be allotted to another candidate in order of merit.
- xiv. Where a candidate fails to join the course/ Institution allotted to him/her in second round of counselling, the seat allotted to him/her in the previous round of counselling will get automatically cancelled. He /she shall have no claim on the seat. However, he/she is eligible to appear in counselling held subsequently.
- xv. The residual seats, which will become available after second round of counselling, will be allotted in the third round and so on.
- xvi. Where the number of the candidates, who turn for counselling, is more than the seats available, then a waiting list will be prepared. The waiting list will operate after receiving a list of vacant seats from the respective Colleges.
- xvii. The candidates may be kept in the waiting list and the number of the candidates to be kept in the waiting list will be decided by the BOPEE on spot. This whole process is subject to the changes as the BOPEE deems proper.
- xviii. The number of the candidates to be called for counselling will be decided by the BOPEE keeping in view the response of the candidates to a particular course.
- xix. The decision of the BOPEE concerning allotment of streams and institutions shall be final. Choices of streams / institutions once exercised shall not be allowed to be changed subsequently.

- xx. Subject to any change by the Regulatory authorities or BOPEE, the admission to
- a) MBBS / BDS courses shall be completed by 30th September 2016, and
 - b) BAMS/ BUMS and B. P. T. courses will close on 31st October 2016, and
 - c) Engineering courses will close on August 15, 2016. Thereafter no admission will be made to any of these courses even if any seat remains vacant.
- xxi. Where a candidate does not get a seat of his/her choice at his/her turn of counselling, he/she shall be placed in the waiting list if he/she so indicates in the counselling form. The waiting list will operate immediately after the expiry of the last date mentioned in the selection list and after receiving short fall from the Colleges. The candidates in the waiting list shall have to report in the concerned College. Their reporting time is 10 am to 2 pm and there after the College authorities shall operate the waiting list strictly according to the merit. If the candidate with higher merit fails to report within the stipulated time, he/she shall forfeit his/her right of admission. However, this process is subject to change as the BOPEE deems proper.
- xxii. It is quite possible that a candidate may not find seat of his/her choice available at the time of his /her turn in second round of counselling but a seat may become vacant subsequently. It is, therefore, in the interest of the candidates to remain available outside counselling room and keep watching monitor on which seat matrix is constantly updated. As and when seat of the choice of such candidate becomes available he/ she should immediately report in the counselling hall. The interested candidates are also advised to visit website of BOPEE every evening or next day in the morning (during counselling days) where latest seat matrix is displayed. This holds true for already counseled students who may find seat of their choice available and may get that because of their higher merit for which they shall have to report early in the next morning at 10 am so that such candidates can be considered in order of merit before the counselling starts for fresh candidates.

NOTE-1:-

Every effort will be made to ensure that the candidate with higher merit gets seat of his/ her choice if available. However, this is possible only when every candidate reports in time and follows instructions scrupulously, failing which the candidate who reports in time but is with lower merit may get seat more in demand than the candidate with higher merit who does not report in time for which BOPEE will not be in any way responsible.

NOTE-2:-

The CET candidates can be considered for admission to Three Year Diploma in Polytechnic courses on the basis of their rank secured in CET, if the seats are available and they make representation to the BOPEE well before the cutoff date for admission to Three Year Diploma in Engineering courses set by the Hon'ble Supreme Court.

NOTE-3:-

The CET candidates can be considered for admission to various courses offered at the Composite Regional Centre (Ministry of Social Justice and Empowerment), Bemina Srinagar with reference to their letter No. CRC-Sgr./Review-CRC/BOPEE/15/250 Dated: 13-10-2015.

14. SYLLABUS FOR COMMON ENTRANCE TEST -2016

Note: The marks distribution given in the syllabus is only illustrative. It will not accrue any right to the candidate, if this distribution of marks is not strictly reflected in the question paper.

PHYSICS

UNIT 1: PHYSICAL WORLD AND MEASUREMENT

(Marks: 02)

S I units, Fundamental and derived units. Accuracy and precision of measuring instruments, Errors in measurement, Significant figures. Dimensions of Physical quantities, dimensional analysis and its applications.

UNIT 2: KINEMATICS

(Marks: 03)

Motion in a straight line: Position-time graph, speed and velocity. Elementary concepts of differentiation and integration for describing motion. Uniform and non-uniform motion, average speed and instantaneous velocity. Uniformly accelerated motion, velocity-time graph, position-time graphs, relations for uniformly accelerated motion, (graphical treatment and calculus approach). Scalar and Vector quantities, addition and Subtraction of vectors, general Vector and notation, Relativen Velocity. Scalar and Vector products of two vectors with properties, Unit Vector, Resolution of a Vector in plane rectangular components, Motion in a plane, Projectile Motion.

UNIT 3: LAWS OF MOTION

(Marks: 02)

Concept of force and Inertia, Newton's First Law of motion; Momentum and Newton's Second Law of motion, Impulse; Newton's Third Law of motion. Law of conversation of linear momentum and its applications, Equilibrium of concurrent forces. Friction, static and kinetic friction, laws of friction, rolling friction.

Dynamics of uniform circular motion: Centripetal force and examples of circular motion (vehicle on level circular road, vehicle on banked road.)

UNIT 4: WORK, ENERGY AND POWER

(Marks: 02)

Concept of scalar products of vectors, Work done by a constant force and variable force; kinetic energy, work energy theorem, power. Potential energy, Potential energy of spring, conservative forces, conservation of mechanical energy (K.E. and P.E.), non-conservative forces; Elastic and inelastic collisions in one and two dimensions.

UNIT 5: MOTION OF SYSTEM OF PARTICLES AND RIGID BODY

(Marks: 02)

Centre of mass of a two-particle system, Centre of mass of a rigid body; Concepts of vector product of vectors: moment of a force, torque, angular momentum, conservation of angular momentum with some examples. Moment of inertia, radius of gyration. Values of moment of inertia for simple geometric objects (no derivation), statement of parallel and perpendicular axes theorems and their applications. Rigid body rotation and equations of rotational motion.

UNIT 6: GRAVITATION

(Marks: 02)

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

UNIT 7: PROPERTIES OF BULK MATTER

(Marks: 02)

Elastic behavior, Stress-strain relationship. Hooke's Law, Young's modulus, bulk modulus, shear modulus of rigidity. Pressure due to a fluid column; Pascal's law and its applications (hydraulic lift and hydraulic brakes) Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, Reynolds number. Bernoulli's theorem and its applications Surface energy and surface tension, angle of contact, applications of surface tension – ideas to drops, bubbles and capillary rise. Heat, temperature, thermal expansion; specific heat, calorimetry; change of state-latent heat. Heat transfer-conduction, convection and radiation, Newton's law of cooling.

UNIT 8: THERMODYNAMICS

(Marks: 02)

Thermal equilibrium and definition of temperature (zeroth law of thermodynamics), Heat work and internal energy. First law of thermodynamics. Second law of thermodynamics: reversible and irreversible processes. Heat engines and refrigerators (concept only)

UNIT 9: BEHAVIOUR OF PERFECT GAS AND KINETIC THEORY

(Marks: 02)

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: rms speed of gas molecules; Degrees of freedom, Law of equipartition of energy (Statement only) and applications to **specific heat capacities of gases; concept of Mean free path, Avagadro's number.**

UNIT 10: OSCILLATIONS AND WAVES

(Marks: 04)

Periodic motion – Period, frequency, displacement as a function of time. Periodic functions. Simple harmonic motion (S.H.M.) and its equation; phase; oscillations of a spring-restoring force and force constant; energy in S.H.M. – kinetic and potential energies; Simple pendulum-derivation of expression for its time period; Free, forced and damped oscillations, resonance. Wave motion. Longitudinal and transverse waves, speed of a wave. 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.

UNIT 11: ELECTROSTATICS

(Marks: 04)

Electric charges: Conservation of charge, Coulomb's law-forces 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 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, 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 dipole in an electrostatic field. Conductors and insulators, Dielectrics and electric polarization, capacitor and capacitance, combination of capacitors in series and in parallel, capacitance of parallel plate capacitor with and without dielectric medium between the plates, Energy stored in a capacitor. Van de Graff generator.

UNIT 12: CURRENT ELECTRICITY

(Marks: 04)

Electric current, Drift velocity, Ohm's law, Electrical resistance, V-I characteristics (linear & non-linear), Electrical energy and power, Electrical resistivity and conductivity, Carbon resistors, Colour code for carbon 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 their applications. Wheatstone bridge, Metre bridge. Potentiometer** – principle and its application to measure the potential difference and for comparing e.m.f. of two cells; measurement of internal resistance of a cell.

UNIT 13: MAGNETIC EFFECTS OF CURRENT AND MAGNETISM

(Marks: 05)

Biot – Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long current carrying straight wire, straight and toroidal solenoids. Force on 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 uniform magnetic field; Moving coil galvanometer, its current sensitivity and conversion with examples. Current loop as a magnetic dipole and its magnetic **dipole moment, magnetic field lines; Earth's magnetic field and magnetic elements.** Para-, dia- and ferro-magnetic substances with examples. Electromagnets and factors affecting their strength, permanent magnets.

UNIT 14: ELECTROMAGNETIC INDUCTION AND ALT. CURRENTS

(Marks: 04)

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 circuits series, resonance; power in AC circuits, wattles current. AC generators and transformer.

UNIT 15: ELECTROMAGNETIC WAVES

(Marks: 02)

Electromagnetic waves and their characteristics. Transverse nature of electromagnetic waves. Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, Xrays, gamma rays) including elementary facts about their uses.

UNIT 16: OPTICS

(Marks: 07)

Ray optics-Reflection of light, spherical mirrors, mirror formula, refraction of light-Total internal reflection and its applications, Refraction at spherical surfaces, lenses, thin lens formula, Lens-makers Formula, Magnification, Power of a Lens. Combination of thin lenses in contact, Microscope and Astronomical Telescope (reflecting and refracting) and their magnifying powers. Wave optics: wave front and Huygens' principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proofs of laws of reflection and refraction using Huygen's principle. Interferences, Young's double slit 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 Polaroid's.

UNIT 17: DUAL NATURE OF MATTER AND RADIATION

(Marks: 02)

Dual nature of radiation. Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation; particle nature of light. Matter waves-wave nature of particle, de Broglie relation. Davission-Germer experiment.

UNIT 18: ATOMS AND NUCLEI

(Marks: 03)

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

UNIT 19: ELECTRONIC DEVICES

(Marks: 04)

Quantitative ideas on Energy bands in solids, conductors, insulators and semiconductors. 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 and its action, characteristics of a transistor; transistor as an amplifier (common emitter configuration) and oscillator. Logic gates (OR, AND, NOT) concept of NAND and NOR gates. Transistor as a switch.

UNIT 20: COMMUNICATION SYSTEM

(Marks: 02)

Basic elements of communication system (block diagram only), Bandwidth of signals (speech, TV and digital data); Bandwidth of Transmission medium, Propagation of electromagnetic waves in the atmosphere, sky and space wave propagation. Need for modulation: Production and detection of an amplitude modulated wave.

CHEMISTRY

UNIT 1: CHEMICAL ARITHMETIC & ATOMIC STRUCTURE

(Marks: 03)

Laws of chemical combination, Mole concept (numericals) Percentage composition, Chemical reactions, Stoichiometry and calculations based on stoichiometry.

Atomic structure:- Bohr's model of Hydrogen atom, Quantum numbers, Pauli's exclusion principle, Hund's rule and Aufbau principle. Heisenberg's uncertainty principle, de-Broglie wave equation and its significance.

UNIT 2: CHEMICAL EQUILIBRIUM

(Marks: 04)

Law of mass action, Le-Chatelier's principle, and its application to physical and chemical equilibria. Ionisation of weak electrolytes (Ostwald's dilution law)

Acids and bases: Acid base equilibria. Bronsted-Lowry and Lewis concept, of acids and bases. Ionic product of water. pH and pOH scales, pKa & pKb values, Solubility product, Buffer solutions Common ion effect, Hydrolysis of salts

UNIT 3: CHEMICAL KINETICS

(Marks: 02)

Rate of chemical reaction, Average and instantaneous rate, Factors effecting rate of reaction, Order and molecularity of reaction, Integrated rate equation and Half-life period (for zero and first order) reaction, Activation energy and Arrhenius equation.

UNIT 4: SOLUTIONS

(Marks: 02)

Vapour pressure, Raoult's law, Ideal and Non-ideal solutions, Colligative properties.
Determination of molecular mass of non-volatile solutes through colligative properties.
Abnormal molecular masses and Van't Hoff Factor.

UNIT 5: CHEMICAL THERMODYNAMICS

(Marks: 04)

Energy changes taking place during chemical reactions, Internal Energy and Enthalpy changes, Enthalpy of combustion, Solution and Neutralization.

Hess's Law (Numerical problems) Laws of thermodynamics-first, second & third, Concepts of Entropy and Free energy, Spontaneity of a chemical reaction and Thermodynamic equilibrium.

UNIT 6: REDOX REACTIONS AND ELECTROCHEMISTRY

(Marks: 03)

Dependence of electrode and cell potential on concentration (Nernst Equation), Electrode potential as a criteria for product formation in electrolysis. E.M.F. of Galvanic cell, Relationship between free energy change and E.M.F. of a cell. Definition and units of Equivalent, Molar and Specific conductivity.

UNIT 7: SOLID STATE & STATES OF MATTER

(Marks: 04)

Boyle's Law, Charles's law, Dalton's law of partial pressure, Graham's law of diffusion of gases.

Causes of deviation from ideal behaviour, ideal gas equation and nature of 'R', Vander Waal's equation, surface tension and viscosity of liquids.

Crystalline and amorphous solids, Crystal lattice, Crystal types, Packing efficiency, calculation of density of unit cell, Number of atoms per unit cell in a cubic cell. Co-ordination number, Stoichiometric defects: Schottky, Frenkel and interstitial.

Properties of solids: Electrical, Magnetic & Dielectric.

UNIT 8: SURFACE CHEMISTRY

(Marks: 02)

Freundlich Adsorption isotherm, preparation of colloidal solutions by physical and chemical method. Electrical properties (cataphoresis, electroosmosis, coagulation and protective colloids) Homogeneous and Heterogeneous Catalysis.

UNIT 9: PERIODIC PROPERTIES

(Marks: 02)

Classification of elements as s, p, d, and f block elements. Variation of Ionization energy, Electron affinity, Electronegativity, Atomic and Ionic radii along the period and down the group in the periodic table.

UNIT 10: CHEMICAL BONDING AND MOLECULAR STRUCTURE

(Marks: 04)

Types of chemical bonds, Ionic & covalent bonds, Bond parameters, Quantum theory of covalent bond, pi and sigma bonds, Hybridization involving s, p and d-orbitals, Dipole moments and hydrogen bond.

VSEPR: Shapes of simple molecules (H₂O, NH₃, SO₂, CO₂, PCl₃, PCl₅, ClF₃, BF₃, SF₄, XeF₂, XeF₄).

Molecular orbital theory: Energy Levels and M.O. diagrams of H₂, H₂⁺, He₂, O₂, O₂¹⁻, O₂²⁻ & F₂.

Bond order and its significance.

UNIT 11: CHEMISTRY OF REPRESENTATIVE ELEMENTS

(Marks: 04)

S and P Block Elements: Electron configuration, Oxidation states and trends in various properties like ionization energy, electron affinity, atomic radii, electronegativity and diagonal relationship.

Alkali metals: Hydration of ions, action with ammonia, flame colouration, solubility of hydroxides, carbonates and sulphates.

Alkaline Earth Metals: Solubility of carbonates, hydroxides and sulphates.

Boron Family: Structure of halides, relative acid strength of trihalides of boron.

Carbon family: Hydrides and oxides.

Nitrogen family: Oxides of Nitrogen and Phosphorous, reducing nature, basic strength and boiling points of their halides.

Oxygen family: volatility, thermal stability, acid character, reducing character and bond angles of their hydrides, oxyacids of sulphur.

Halogen family: Bond energy, colour and oxidizing power, boiling point, acid strength and dipole moment, thermal stability, reducing power of hydroacids, relative acidity and oxidizing power of oxyacids of halogens.

UNIT 12: TRANSITION ELEMENTS INCLUDING LANTHANOIDES

(Marks: 02)

Electron configuration, Oxidation states, Colour, and Magnetic properties.

Oxides of Vanadium, Chromium and Manganese Alloys of Copper, Silver and Iron.

Metallurgy of Iron, Copper and Zinc.

UNIT 13: CO-ORDINATION CHEMISTRY**(Marks: 04)**

Introduction, Ligands, Co-ordination Number, IUPAC Nomenclature.

Bonding theories: Werner's, VBT and CFT.

Isomerism in Co-ordination compounds (Ionization, Linkage, Hydrate, Geometrical and Optical).

Applications of Co-ordination complexes in Biology, Medicine and Analytical Chemistry.

UNIT 14: NOMENCLATURE AND BASIC CONCEPTS IN ORGANIC CHEMISTRY (Marks: 03)

Nomenclature of organic compounds (monofunctional and polyfunctional groups), inductive, electromeric resonance and hyperconjugation effects, reaction intermediates, carbocations, carbanions and free radicals with their general stability order, types of organic reactions (addition, substitution, elimination and redox reactions), aromaticity on the basis of Huckel rule. Ortho, meta and para directing groups.

UNIT 15: HYDROCARBONS**(Marks: 03)**

Structural isomerism in alkanes, alkenes, alkynes and arenes, stereoisomerism: geometrical and optical isomerism, chirality, origin of chirality, specific rotation, racemisation and resolution, conformations in ethane and cyclohexane, relative configuration (D,L-Nomenclature), absolute (R and S system of nomenclature).

UNIT 16: ORGANIC CHEMISTRY BASED ON FUNCTIONAL GROUP-I**(Marks: 02)**

Haloalkanes, haloarenes, alcohols and phenols: General methods of preparation and properties. Chloroform and Iodoform.

UNIT 17: ORGANIC CHEMISTRY BASED ON FUNCTION GROUP-II**(Marks: 03)**

Ethers, Aldehydes, Ketones, Monocarboxylic acids: General methods of preparation and properties. Derivatives of monocarboxylic acids like acid halides, acid anhydrides acid amides and esters.

Relative strength of carboxylic acids

UNIT 18: ORGANIC CHEMISTRY BASED ON FUNCTIONAL GROUP-III**(Marks: 03)**

Cyanides, Isocyanides, Nitrocompounds and Amines: General methods of preparation and properties. Relative basic character of amines.

UNIT 19: MOLECULES OF LIFE**(Marks: 03)**

Carbohydrates: Definition, Classification, Mutarotation, Structure of Amino-acids, Peptides and Proteins (Molish and ninhydrin tests). Classification and uses of vitamins. Chemicals in medicine and health care, Dyes and drugs. Chemical reactions in atmosphere, ozone depletion and its effects. Acid rain, Green House effect & Global warming.

UNIT 20: POLYMERS**(Marks: 03)**

Introduction, Classification, Methods of Polymerisation (Addition, Condensation, Free Radical, Cationic & Anionic).

Natural & Synthetic Polymers: Polythene, Nylon, Polyester, Bakelite and Rubber.

Biodegradable and Non-Biodegradable Polymers.

BIOLOGY

UNIT-1: DIVERSITY AND CLASSIFICATION OF PLANTS**(Marks: 03)**

Systematics—need and history; Salient features of two and five kingdom systems and their merits and demerits; types of classifications (artificial, natural and phylogenetic); General characters of algae, fungi, bryophytes, pteridophytes, gymnosperms and angiosperms; Status of some acellular organisms like viruses and viroids;; Lichens---basic characteristics. Botanical gardens and herbarium.

UNIT-2: MORPHOLOGY AND ANATOMY OF PLANTS**(Marks: 03)**

Morphology of root, stem and leaf and their modifications; types of inflorescence, flower, fruit and seed. Description of Liliaceae, Fabaceae and Solanaceae. Tissues and tissue system: Types of tissues (meristematic and permanent). Anatomy of dicot and monocot root, stem and leaves; secondary growth.

UNIT-3: PLANT PHYSIOLOGY**(Marks: 07)**

Transport in plants: Mechanisms of transport—diffusion, facilitated diffusion, passive and active transport, antiport and symport. Plant water relations: Water potential; osmosis; plasmolysis; imbibition; long distance transport of water; apoplast, symplast pathways; ascent of sap; root pressure theory, transpirational pull theory and cohesion-tension theory. Transpiration: mechanism of opening and closing of stomata, guttation; phloem transport (Mass Flow hypothesis), diffusion of gases.

Mineral Nutrition: Essential Minerals; macro and micro nutrients—their role and deficiency symptoms and mineral toxicity. Mechanism of nutrient uptake by plants from soil. Hydroponics. Nitrogen metabolism—nitrogen cycle, nitrogen fixation. Photosynthesis: site of photosynthesis; various photosynthetic pigments; mechanism of light reaction; photophosphorylation (cyclic and non-cyclic); Dark reaction-fixation of carbon dioxide (C₃ cycle, C₄ cycle); factors affecting photosynthesis; photorespiration. Respiration: Exchange of gases, cellular respiration; glycolysis, Krebs cycle, Electron Transport System; Aerobic and anaerobic respiration; respiratory quotient. Growth and Development: Characteristics and phases of plant growth; growth curve; differentiation, dedifferentiation and redifferentiation; plant growth regulators-discovery, nature and physiological effects of auxins, gibberellins, cytokinins, ethylene and abscisic acid. Photoperiodism and vernalisation.

UNIT-4: REPRODUCTION IN FLOWERING PLANTS**(Marks: 04)**

Modes of reproduction in flowering plants (Vegetative, asexual, sexual and micropropagation); development of male and female gametophytes; Pollination—types, agencies and examples; in-breeding and out-breeding devices, pollen-pistil interaction; double fertilization; post-fertilization events; development of endosperm, embryo, seed and fruit; apomixis and polyembryony—types and importance.

UNIT-5: GENETICS**(Marks: 05)**

Heredity and variation (somatic and germinal); Mendel's laws of inheritance; deviations from Mendelism; incomplete dominance; co-dominance; multiple alleles; pleiotropy; Polygenic Inheritance; Chromosomal Theory of Inheritance.

Evidence for DNA as genetic material; structure of DNA and RNA; DNA packaging; DNA replication; Protein synthesis—transcription, translation, genetic code; gene expression and regulation (lac-operon).

UNIT-6: ECOLOGY AND ENVIRONMENT**(Marks: 05)**

Meaning of ecology, community, niche. Population and ecological adaptations: Characteristics of populations natality, fecundity & mortality, age distribution; population interactions, competition, predation, parasitism and mutualism. Ecosystems: Biotic and abiotic components; energy flow, nutrient cycling (carbon and phosphorus), decomposition and primary productivity; pyramids of number, biomass and energy; ecological succession types. Food chain and food web. Biodiversity and its conservation: threats to biodiversity; megabiodiversity countries and biodiversity hotspots; IUCN threat categories; in situ and ex situ methods of biodiversity conservation. Environmental issues: Causes and consequences of air and water pollution and their control; solid waste management; agrochemicals and their effect; greenhouse effect and global warming; stratospheric ozone layer depletion—causes and consequences.

UNIT- 7: BIOLOGY AND HUMAN WELFARE**(Marks: 03)**

Plant breeding: Introduction, steps in plant breeding and application of plant breeding; Biofortification, Tissue culture: Cellular totipotency; technique and application of tissue culture Microbes in human welfare: Role of microbes in food processing; industrial production; sewage treatment; energy production (biogas); biopesticides and biofertilizers . Genetically Modified Organisms (GMOs); Bt crops, biopiracy and patents.

UNIT-8: DIVERSITY IN THE LIVING WORLD**(Marks: 02)**

Characteristic features of living organisms Salient features of different animal phyla (non-chordates upto phylum level, chordates upto class level) National parks of India with special reference to J&K State:- Dachigam National Park, Hemis High altitude National park and Kishtwar High altitude National park.

UNIT-9: HISTOLOGY & MORPHOLOGY**(Marks: 02)**

Animal Tissues:- Epithelial, Connective, Muscular and Nervous.

Elementary knowledge on morphology & anatomy of Frog, Earthworm and Cockroach.

UNIT-10: CELL-STRUCTURE & FUNCTION**(Marks: 04)**

Modern cell theory, Prokaryotic and eukaryotic cells, cell wall, cell membrane :- structure & function (fluid mosaic model). Cell organelles (Plastids, Mitochondria, Endoplasmic reticulum, Golgi bodies/ dictyosomes, Riobosomes, Lysosomes, Nucleus, Vacuoles, Centrioles, cilia & Flagella) **Cell division:** Cell cycle, Mitosis and Meiosis **Bio molecules:** Structure and function of carbohydrates, proteins, lipids and nucleic acids. Primary and secondary metabolites. Metabolism **Enzymes:** Types, properties functions and factors controlling enzyme activity.

UNIT-11: HUMAN PHYSIOLOGY

(Marks: 08)

Alimentary canal, digestion and absorption of food, disorders of digestive system (jaundice, vomiting, diarrhea, constipation, indigestion etc.) Respiratory organs, mechanism of breathing, respiratory volumes and capacities, transport of gases (oxygen and carbon dioxide), disorders of respiratory system (asthma, emphysema, fibrosis etc.) Circulatory system:- Blood & lymph and their functions, blood groups, coagulation of blood, human heart, cardiac cycle, ECG, double circulation, disorders of circulatory system. (hypertension, coronary artery disease, angina, heart failure). Excretory products and their elimination. Modes of Excretion; Ammonotelism, Ureotelism and Uricotelism. Human excretory system, urine formation, functions of tubules, mechanism of concentration of the filtrate, regulation of kidney function, micturition, role of other organs in excretion (lungs, liver and skin), haemodialysis and peritoneal dialysis, disorders of the excretory system (kidney failure, glomerulonephritis, renal calculi) Types of movement (amoeboid, ciliary and muscular), different types of muscles, structure of contractile proteins (actin and myosin), mechanism of muscle contraction, joints, disorders of muscular and skeletal system (Myasthenia gravis, muscular dystrophy, tetany, arthritis, gout, osteoporosis) Human nervous system, neuron as a structural and functional unit of nervous system, generation and conduction of nerve impulse, transmission of impulses, reflex action and reflex arc, structure and functioning of the sense organs (eye and ear) Endocrine glands, Mechanism of hormone action, hormones of heart, kidney and gastrointestinal tract.

UNIT-12: REPRODUCTION

(Marks: 06)

Asexual reproduction:- Characteristics and types of asexual reproduction (binary fission, sporulation, budding, gemmules, fragmentation, regeneration). Human reproduction:- male and female reproductive system, microscopic anatomy of testis and ovary, spermatogenesis and oogenesis, menstrual cycle, fertilization, embryo development upto blastocyst formation, implantation, pregnancy and placenta formation, parturition and lactation Reproductive health:- need for reproductive health, sexually transmitted diseases and their control and prevention. Birth control :- its need and methods, contraception and medical termination of pregnancy (MPT), amniocentesis, infertility and associated reproductive technologies (IVF,ZIFT,GIFT).

UNIT-13: GENETICS AND EVOLUTION

(Marks: 03)

Sex determination in humans, birds and honey bee. Inheritance pattern of Mendelian disorders in humans (colour blindness, haemophilia, cystic fibrosis, sickle- cell anaemia, phenylketonuria, thalassaemia) Chromosomal disorders in humans:- Down's syndrome, Turner's syndrome and Klinefelter's syndrome Genome and human genome project. DNA fingerprinting. Origin of life, theories and evidences for evolution with special reference to Darwinian theory, and Modern synthetic theory, Hardy-Weinberg principle, Adaptive radiation. Origin and evolution of man.

UNIT-14: BIOLOGY AND HUMAN WELFARE

(Marks: 03)

Health and Diseases:- basic concepts of immunology, vaccines, common diseases in human beings (their causative agents, symptoms, prevention and control) with reference to typhoid, hepatitis, malaria, filariasis, bubonic plague, ascariasis, common cold, amoebiasis and ring worm. Detailed account of diseases like cancer and HIV/ AIDS. Insects and human welfare:- Silk, honey and lac producing insects, their life- cycle and usefulness of their products. Poultry and Dairy Farming. Adolescence and drug and alcohol abuse (effects of drug/ alcohol abuse, prevention and control).

UNIT –15: BIOTECHNOLOGY AND ITS APPLICATIONS

(Marks: 02)

Genetic engineering (recombinant DNA technology), cloning. Biotechnological production of human insulin, vaccines and growth hormone. Gene therapy. Bio safety/ ethical issues regarding recombinant DNA technology.

MATHEMATICS

UNIT 1: SETS, RELATIONS AND FUNCTIONS

(Marks: 06)

Sets and their representation, finite and infinite sets, empty set subsets, subset of real numbers especially intervals, power set, universal set. Venn diagram, union and intersection of sets. Difference of sets, Compliment of a set. Ordered pairs, Cartesian product of sets, number of elements in the Cartesian product of two finite sets.

Relations, Domain, co- domain and range of relation, types of relations, reflexive, symmetric, transitive and equivalence relations.

Functions as special kind of relations from one set to another, domain, co-domain and range of a function. One to one, onto functions. Real valued functions of the real variable; constant, identity, polynomial, rational, modulus, signum and the greatest integer functions with their graphs. Sum, difference, product and quotients of functions. Composition of functions, inverse of a function, binary operations.

UNIT 2: COMPLEX NUMBER; LINEAR INEQUATION; LINEAR PROGRAMMING (Marks: 06)

Complex number: Conjugate of a complex number, modulus and amplitude (argument) of a complex number, Argand's plane and polar representation of complex numbers, algebraic properties of complex numbers. Fundamental theorem of algebra, solution of Quadratic equation in the complex number system. Square root of a complex number.

Linear inequation: Algebraic solution of linear inequalities in one variable and two variables.

Linear programming: Introduction, definition of related terminology such as constraints, objective function, optimization, different type of linear programming problem (L.P), mathematical formulation of L.P problem, graphical method of solution for problems in two variables, feasible and infeasible regions, feasible and infeasible solutions, optimal feasible solutions.

UNIT 3: SEQUENCE AND SERIES, PERMUTATION AND COMBINATION & BINOMIAL THEOREM (Marks: 06)

Sequence and series: Arithmetic progression (A.P), arithmetic mean (A.M), nth term, sum to n-terms of an A.P, Geometric progression (G.P), Geometric Mean (G.M), nth term, sum to n-terms and sum to infinity of a G.P. Relation between A.M and G.M. Sum to n terms of $\sum n$, $\sum n^2$ and $\sum n^3$.

Permutation and combination: Fundamental principle of counting, factorial n, permutations P(n,r) and combinations C(n,r), simple applications.

Binomial Theorem: Binomial theorem for positive integral power. general and middle terms in the Binomial expansion. Pascal's triangle and simple applications.

UNIT 4: TRIGONOMETRIC AND INVERSE TRIGONOMETRY FUNCTIONS (Marks: 06)

Positive and negative angles, measuring angles in radians and in degrees, Conversion from one measure to another. Definition of trigonometric functions with the help of unit circle. Periodicity of Trigonometric functions. Basic Trigonometric identities $\sin^2 x + \cos^2 x = 1$ for all Sign of x etc. Trigonometric functions and their graphs. Expressions for $\sin(x \pm y)$, $\cos(x \pm y)$, $\tan(x \pm y)$, $\cot(x \pm y)$, sum and product formulae.

Identities related to $\sin 2x$, $\cos 2x$, $\tan 2x$, $\sin 3x$, $\cos 3x$, and $\tan 3x$. General and principal solutions of trigonometric equations of the type $\sin x = \sin a$, $\cos x = \cos a$, $\tan x = \tan a$.

Inverse trigonometric functions, range, domain, principal value branches. Graphs of inverse trigonometric functions, elementary properties of inverse trigonometric functions

UNIT 5: MATRICES AND DETERMINANTS (Marks: 04)

Matrices, concepts, notation, order, equality, types of matrices, Zero matrix, transpose of matrix, Symmetric and skew symmetric matrices. Addition, multiplication, scalar multiplication of matrices, simple properties of addition, multiplication and scalar multiplication of matrices. Non-commutativity of multiplication of matrices and existence of non-zero matrices whose product is the zero matrix (order 2×2). Concept of elementary row and column operation, Invertible matrices and uniqueness of inverse, if it exists. (Matrices with real entries).

Determinants of square matrix (upto 3×3 matrices) properties of determinants, minors, cofactors and applications of determinants in finding area of a triangle. Adjoint and inverse of a square matrix. Consistency, inconsistency and number of solutions of system of linear equations by examples, solving system of linear equations in two or three variables using inverse of a matrix.

UNIT 6: LIMIT, CONTINUITY AND DIFFERENTIATION (Marks: 08)

Concept of limit of a function. Theorems on Limits, Evaluation of limits using standard results

$$\lim_{x \rightarrow 0} \frac{\sin x}{x}, \lim_{x \rightarrow a} \frac{x^n - a^n}{x - a}, \lim_{x \rightarrow 0} \frac{1}{x}, \lim_{x \rightarrow \infty} \frac{1}{x}, \lim_{x \rightarrow \infty} \left(1 + \frac{1}{x}\right)^x$$

$$\lim_{x \rightarrow 0} (1+x)^{1/x}, \lim_{x \rightarrow 0} \frac{\log_e(1+x)}{x}, \lim_{x \rightarrow 0} \frac{e^x - 1}{x}$$

Continuity of a function at a point. Continuity of Sum, product and quotient of functions. **Derivative:** definition of a derivative of a function, geometrical interpretation of the derivative.

- Derivative of sum, difference, product and quotient of two or more functions.
- Derivative of algebraic and composite functions.
- Derivative of trigonometric and inverse trigonometric functions.
- Chain rule, derivative of implicit functions.
- Derivative of logarithmic and exponential functions.
- Logarithmic differentiation.
- Derivative of functions expressed in parametric forms.

Second order derivatives.

- Rolle's and Lagrange's Mean Value Theorem and their geometrical interpretation and their simple applications.

Application of Derivative: rate of change, increasing and decreasing functions, tangents and normals, approximation, maxima and minima (first derivative and second derivative test). Simple problems.

UNIT 7: INTEGRATION AND DIFFERENTIAL EQUATIONS

(Marks: 07)

Integration as inverse process of differentiation. Integration of variety of functions by Substitution, by parts, by partial fractions. Simple integrals of the type:

$$\int \frac{dx}{x^2 \pm a^2}, \int \frac{dx}{\sqrt{x^2 \pm a^2}}, \int \frac{dx}{\sqrt{a^2 - x^2}},$$

$$\int \frac{dx}{ax^2 + bx + c}, \int \frac{dx}{\sqrt{ax^2 + bx + c}}, \int \frac{(px + q)}{ax^2 + bx + c} dx, \int \frac{(px + q)}{\sqrt{ax^2 + bx + c}} dx,$$

$$\int \sqrt{a^2 \pm x^2} \cdot dx, \int \sqrt{x^2 - a^2} \cdot dx,$$

$$\int \sqrt{ax^2 + bx + c} dx, \int \frac{dx}{a + b \cos x}, \int \frac{dx}{a + b \sin x},$$

$$\int (px + q)\sqrt{ax^2 + bx + c} dx$$

Definite integrals as a Limit of a sum. Fundamental Theorem of calculus. Basic properties of definite integrals Evaluation of definite integrals.

Application of integrals: Application in finding the area under simple curves, especially lines. Areas of circles, parabolas and ellipses (in standard form) Area under the curve $y = \sin x$, $y = \cos x$, area between the above two curves.

Differential Equations: Definition, order and degree of a differential equation. General and particular solutions of a differential equation. Formation of a differential equation whose general solution is given. Solution of differentiation equation by method of separation of variables. Solution of Homogeneous differential equation of first order and first degree. Solution of linear differential equation of the type:

$$\frac{dy}{dx} + py = q, \text{ where } p \text{ and } q \text{ are functions of } x \text{ alone and}$$

$$\frac{dx}{dy} + px = q, \text{ where } p \text{ and } q \text{ are functions of } y \text{ alone.}$$

UNIT 8: STRAIGHT LINES AND CONIC SECTIONS

(Marks: 05)

Distance between two points, section, slope of a line, angle between two lines, various forms of equations of lines, point-slope form, intercept form, two point form, and normal form. General equation of a line, distance of a point from a line. Conic Section: Sections of a cone, circles, parabola, ellipse, hyperbola, a point, a straight line and a pair of intersecting lines as a degenerated case of conic section. Standard equation of a circle, parabola, ellipse, and hyperbola and their simple properties.

UNIT 9: STATISTICS AND PROBABILITY

(Marks: 06)

STATISTICS Measure of dispersion, mean, deviation, variance and standard deviation of ungrouped/ grouped data. Analysis of frequency distribution with equal means but different variances.

PROBABILITY : Random Experiment: outcome, sample spaces.

Events: Mutually exclusive and exhaustive events. Axiomatic (set theoretic) probability, probability of an event, probability of “Not” and “Or” events. Multiplication theorem on probability, conditional probability, independent events, total probability, Baye’s theorem, random variable and its probability, distribution, mean and variance of a random variable. Repeated independent (Bernouli) trials and Binomial distribution.

UNIT 10: VECTORS AND THREE DIMENSIONAL GEOMETRY

(Marks: 06)

Vectors and scalars, magnitude and direction of a vector Direction Cosines and ratios of a vector. Types of vector, equal, zero, unit, parallel and collinear vectors. Position vector of a point , negative of a vector, components of a vector, addition of vectors, Scalar multiplication, position vector of a point dividing a line segment in a given ratio. Scalar (dot) product of vectors, projection of a vector on a line. Vector (cross) product of vectors, Scalar triple product. Coordinate axes and Coordinate planes in three dimensions of a point, distance between two points and sectional formula.

STRAIGHT LINES AND SPACE Direction cosines and direction ratios of a line joining two points. Cartesian and vector equation of a line (in various forms), coplanar and skew-lines, shortest distance between two lines.

PLANES Cartesian and vector equation of a plane(in various forms). Distance of a point from a plane.

Angle between:

- i. Two lines
- ii. Two planes.
- iii. A line and a plane

15. INSTITUTIONS WITH COURSES AND TENTATIVE INTAKE CAPACITY

The number of seats in different courses/ colleges may increase or decrease. The exact number of seats available will be notified at the time of counselling for admission. The details of the tentative seats available, as on date, discipline-wise, in different Medical Colleges/ Institutions of the State for the academic year-2016 are given below.



GOVT. MEDICAL COLLEGE SRINAGAR

Phone: 0194-24504114

Fax: 0194-24504114

Email: drrafiqahmad@rediffmail.com

Courses	Intake Capacity	Seats to be filled by BOPEE
MBBS	100+50*	100+50*



GOVT. MEDICAL COLLEGE, JAMMU

Phone: 0191-2584234

Fax: 0191-2584247

Email: pmcjammu@gmail.com

Courses	Intake Capacity	Seats to be filled by BOPEE
MBBS	100+50*	100+50*



SHER-I-KASHMIR INSTITUTE OF MEDICAL SCIENCES, MEDICAL COLLEGE BEMINA

Phone: 0194-2403470
Email: director@skims.ac.in

Fax: 0194-2490071
Website: www.skims.ac.in

Courses	Intake Capacity	Seats to be filled by BOPEE
MBBS	50+50*	50+50*

*Subject approval of MCI and other regulating bodies



ACHARIYA SHRI CHANDRA COLLEGE OF MEDICAL SCIENCES SIDHRA, JAMMU

Phone: 0191-2662270

Email: ascomshospital@gmail.com

Fax: 0191-2662324, 2662113

Website: www.ascomcollege.com

Courses	Intake Capacity	Seats to be filled by BOPEE	Payment seats	Poor & Backward Category Seats	Management Quota Seats (including NRI)
MBBS	100	50*	40	10	50

* Subject to approval from the J&K Government and University of Jammu.



GOVT. DENTAL COLLEGE, SRINAGAR

Phone: 0194-2455022

Fax: 0194-2480679

Email: gdcsrinagar@gmail.com

Courses	Intake Capacity	Seats to be filled by BOPEE
BDS	50*	50
Dip. Dental Hygiene	05	05

* *Subject to approval from DCI*