UNION PUBLIC SERVICE COMMISSION

EXAMINATION NOTICE NO.06/2012-ENGG. **DATE : 10.03.2012**

LAST DATE FOR RECEIPT OF APPLICATIONS 09.04.2012

ENGINEERING SERVICES EXAMINATION, 2012

(COMMISSION'S WEBSITE : www.upsc.gov.in)

No.F. 2/8/2011-E.I(B): A combined competitive examination for recruitment to the Services/posts mentioned in para 2 below will be held by the Union Public Service Commission at AGARTALA, AHMEDABAD, AIZAWL, ALIGARH, ALLAHABAD, BANGALORE, BAREILLY, BHOPAL, CHANDIGARH, CHENNAI, CUTTACK, DEHRADUN, DELHI, DHARWAD, DISPUR, GANGTOK, HYDERABAD, IMPHAL, ITANAGAR, JAIPUR, JAMMU, JORHAT, KOCHI (COCHIN), KOHIMA, KOLKATA, LUCKNOW, MADURAI, MUMBAI, NAGPUR, PANAJI (GOA), PATNA, PORT BLAIR, RAIPUR, RANCHI, SAMBALPUR, SHILLONG, SHIMLA, SRINAGAR, THIRUVANANTHAPURAM, TIRUPATI, UDAIPUR AND VISHAKHAPATNAM commencing on **15th June, 2012** in accordance with the Rules published by the Ministry of Railways (Railway Board) in the Gazette of India Extraordinary dated the **10th March, 2012.**

THE CENTRES AND THE DATE OF HOLDING THE EXAMINATION AS MENTIONED ABOVE ARE LIABLE TO BE CHANGED AT THE DISCRETION OF THE COMMISSION. WHILE EVERY EFFORT WILL BE MADE TO ALLOT THE CANDIDATES TO THE CENTRE OF THEIR CHOICE FOR EXAMINATION, THE COMMISSION MAY, AT THEIR DISCRETION ALLOT A DIFFERENT CENTRE TO A CANDIDATE WHEN CIRCUMSTANCES SO WARRANT. CANDIDATES ADMITTED TO THE EXAMINATION WILL BE INFORMED OF THE TIME TABLE AND PLACE OR PLACES OF EXAMINATION.

The candidates should note that no request for change of centre will be entertained.

2. (A) Recruitment on the results of this examination will be made to the Services/Posts under the following categories:-

Category I—Civil Engineering.
Category II—Mecahnical Engineering.
Category III—Electrical Engineering.
Category IV—Electronics & Telecommunication Engineering.

The number of vacancies to be filled on the results of the examination is expected to be approximately **560** including 47 PH vacancies.

The number of vacancies is liable to alteration.

Reservations will be made for candidates belonging to Scheduled Castes, Scheduled Tribes, Other Backward Classes and Physically Disabled Category in respect of vacancies as may be fixed by the Government of India.

IMPORTANT

1. CANDIDATES TO ENSURE THEIR ELIGIBILITY FOR THE EXAMINATION:

The candidates applying for the examination should ensure that they fulfil all eligibility conditions for admission to the Examination. Their admission at all the stages of the examination will be purely **provisional** subject to satisfying the prescribed eligibility conditions.

Mere issue of e-Admission Certificate to the candidate will not imply that his/her candidature has been finally cleared by the Commission.

Commission take up verification of eligibility conditions with reference to original documents only after the candidate has qualified for Interview/Personality Test.

2. HOW TO APPLY

Candidates are required to apply Online only by using the website www.upsconline.nic.in. Brief instructions are given in Appendix-II. Detailed instructions for filling up online applications are available on the above mentioned website.

3. LAST DATE FOR RECEIPT OF APPLICATIONS :

The Online Applications can be filled upto **9th April, 2012** till **11.59 PM** after which the link will be disabled.

4. The eligible candidates shall be issued an e-Admission Certificate three weeks before the commencement of the examination. The e-Admission Certificate will be made available in the UPSC website [www.upsc.gov.in] for downloading by candidates. No Admission Certificate will be sent by post. All the applicants are requested to provide valid & active e-mail i.d. while filling up Online application form as the commission may use electronic mode for contacting them.

5. PENALTY FOR WRONG ANSWERS (in Objective Type Papers) :

Candidates should note that there will be penalty (Negative Marking) for wrong answers marked by a candidate in the Objective Type Question Papers.

6. FACILITATION COUNTER AND WEBSITE FOR GUIDANCE OF CANDIDATES :

In case of any guidance/information/clarification regarding their applications, candidature etc., candidates can contact UPSC's Facilitation Counter near Gate 'C' of its campus in person or over **Telephone Nos.011-23385271/011-23381125/011-23098543** on working days between 10.00 hrs. and 17.00 hrs.

The Commission also has Website at address : **www.upsc.gov.in** over which the candidates can obtain details of the examination as well as information about registration of their applications, venue of the examination and results etc.

7. SPECIAL INSTRUCTIONS :

Candidates are advised to read carefully "Special Instructions to the Candidates for Conventional Type Tests and Objective Type Tests" (Appendix III Part A and Part B). For both writting and marking answers in the OMR sheet [Answer Sheet] in objective type papers, candidates must use either black or blue ball pen only. Pens with any other colours are prohibited. Do not use Pencil or ink pen.

8. MOBILE PHONES NOT PERMITTED :

(a) Mobiles phones, pagers or any other communication devices are not allowed inside the premises where the examination is being conducted. Any infringement of these instructions shall entail disciplinary action including ban from future examinations.

(b) Candiates are advised in their own interest not to bring any of the banned items including mobile phones/pagers or any valuable/costly items to the venue of the examination, as arrangements for safekeeping cannot be assured. Commission will not be responsible for any loss in this regard.

Candidates are required to apply only through Online mode

CATEGORY I

CIVIL ENGINEERING

Group A Services/Posts

(i) Indian Railway Service of Engineers.
(ii) Indian Railway Stores Services (Civil Engineering Posts).
(iii) Central Engineering Service.
(iv) Indian Defence Service of Engineers (Civil Engineering Posts).
(v) Indian Ordance Factories Services.
(vi) Central Water Engineering Gr. 'A' Service (Civil Engineering Posts).
(vii) Central Engineering Service (Roads) Group-A. (Civil Engg. Posts)
(viii) Assistant Executive Engineer (Civil Engineering Post) (in Border Roads Engineering Service Gr. 'A').

CATEGORY II

MECHANICAL ENGINEERING

Group A Services/Posts

(i) Indian Railway Service of Mechanical Engineers.
(ii) Indian Railway Stores Service (Mechanical Engineering Posts).
(iii) Central Water Engineering Gr. 'A' Service (Mechanical Engineering Posts).
(iv) Central Power Engineering Service (Mechanical Engineering Posts).
(v) Indian Ordnance Factories Service.
(vi) Indian Naval Armament Service (Mechanical Engineering Posts).
(vii) Assistant Executive Engineer Group 'A' (Mech. Engg. Posts) in the corps of EME, Ministry of Defence.
(viii) Assistant Naval Stores Officer, Grade-I (Mechanical Engineering Posts) in Indian Navy.
(ix) Central Electrical & Mechanical Engineering Service (Mechanical Engineering Posts).
(x) Assistant Executive Engineer (Electrical and Mechanical) [Mechanical Engineering post] in Border Roads Engineering Service Group 'A').
(xi) Indian Supply Service, Group 'A' (Mechanical Engineering Posts).
(xii) Indian Defence Service of Engineers (Mechanical Engineering Posts).
(xiii) Central Engineering Service (Roads) Group 'A' [Mechanical Engg. posts].

CATEGORY III

ELECTRICAL ENGINEERING

Group A Services/Posts

(i) Indian Railway Service of Electrical Engineers.
(ii) Indian Railway Stores Service (Electrical Engineering Posts).
(iii) Central Electrical and Mechanical Engineering Service (Electrical Engg. Posts).
(iv) Indian Naval Armament Service (Electrical Engineering Posts).
(v) Indian Ordnance Factories Service.
(vi) Central Power Engineering Service (Electrical Engineering Posts).
(vii) Indian Defence Service of Engineers (Electrical Engineering Posts).
(viii) Assistant Naval Stores Officer, Grade-I (Electrical Engineering Posts) in Indian Navy.
(ix) Indian Supply Service Group 'A' (Electrical Engineering Posts).
(x) Assistant Executive Engineer Group 'A' [Electrical Engg. post] in the corps of EME, Ministry of Defence.

CATEGORY IV

ELECTRONICS AND TELECOMMUNICATION ENGINEERING

Group A & B Services/Posts

(i) Indian Railway Service of Signal Engineers.
(ii) Indian Railway Stores Service (Telecommunication/Electronics Engineering Posts).
(iii) Indian Naval Armament Service (Electronics Engineering Posts).
(iv) Assistant Executive Engineer Group 'A' (Electronics & Telecommunication Engineering Posts) in the Corps of E.M.E., Ministry of Defence.
(v) Central Power Engg. Service, Group 'A' [Electronics and Tele Communication Engg. Service].
(vi) Engineer (GCS-Gr-'A') in Wireless Planning and Co-ordination Wing/Monitoring Organisation. (M/o Communications & I.T., D/o Telecommunications).
(vii) Assistant Naval Stores Officer Grade-I (Electronics & Telecom Engineering Posts) in Indian Navy.
(viii) Indian Supply Service, Group 'A' (Electronics & Telecommunication Engineering Posts).
(ix) Indian Inspection Service Group 'A' [Electronics and Telecommunication Engg. Posts].
(x) Indian Telecommunication Service Gr. 'A'.
(xi) Junior Telecom officer [General Central Service Group 'B' Gazetted Non-Ministerial].

Note:- Recruitment to the Services/Posts mentioned above will be made on the basis of the scheme(s) of examination prescribed in Appendix-I to the Notice. Candidates who are declared qualified on the result of written part of the examination will be required to indicate their preference for Services/Posts at the appropriate time in the Detailed Application Form.

N.B. (i)—DEPARTMENTAL CANDIDATES ARE THE CANDIDATES ADMITTED TO THE EXAMINATION UNDER AGE RELAXATION VIDE RULE 5(B). SUCH

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"Government strives to have a workforce which reflects gender balance and women candidates are encouraged to apply."

CANDIDATES MAY GIVE THEIR PREFERENCES FOR THE SERVICES/ POSTS IN OTHER MINISTRIES/ DEPARTMENTS ALSO.

N.B. (ii)—Candidates admitted to the examination under the proviso to para 3(III) will be considered only for the posts mentioned in the said proviso and their preference for other Services and Posts, if any, will be ignored.

N.B. (iii)—The candidates will be allotted to various Services/Posts strictly in accordance with their merit position, preferences exercised by them and number of vacancies, subject to their medical fitness.

2 (B) A candidate may apply for admission to the examination in respect of anyone of the categories of the Services/Posts mentioned in para 2 above viz. Civil Engineering or Mechanical Engineering or Electrical Engineering or Electronics & Telecommunication Engineering.

3. ELIGIBILITY CONDITIONS:

(I) Nationality:

A candidate must be either:

(a) a citizen of India, or

(b) a subject of Nepal, or

(c) a subject of Bhutan, or

(d) a Tibetan refugee who came over to India before the 1st January, 1962 with the intention of permanently settling in India, or

(e) a person of Indian origin who has migrated from Pakistan, Burma, Sri Lanka or East African countries of Kenya, Uganda, the United Republic of Tanzania, Zambia, Malawi, Zaire and Ethiopia or from Vietnam with the intention of permanently settling in India.

Provided that a candidate belonging to categories (b), (c), (d) and (e) above shall be a person in whose favour a certificate of eligibility has been issued by the Government of India.

A candidate in whose case a certificate of eligibility is necessary, may be admitted to the examination but the offer of appintment may be given only after the necesary eligibility certificate has been issued by the Government of India.

(II) Age Limits:

(a) A candidate for this examination must have attained the age of 21 years and must not have attained the age of 30 years on the **Ist January, 2012** i.e. he/she must have been born not earlier than **2nd January, 1982** and not later than **1st January, 1991.**

(b) The upper age limit of 30 years will be relaxable upto 35 years in the case of Government Servants of the following categories, if they are employed in a Department/Office under the control of any of the authorities mentioned in column 1 below and apply for admission to the examination for all or any of the Service(s)/ Post(s) mentioned in column 2, for which they are otherwise eligible.

(i) A candidate who holds substantively a permanent post in the particular Department/Office concerned. This relaxation will not be admissible to a probationer appointed against a permanent post in the Department/Office during the period of his probation. However this relaxation will be admissible to a probationer so appointed provided he/she already retains a lien on a permanent post in a Department/Office under the control of any of the authorities mentioned in column 1 below.

(ii) A candidate who has been continuously in a temporary service on a regular basis in the particular Department/Office for at least 3 years on the **1st January, 2012**.

Column 1	Column 2
Railway Department	I.R.S.E. I.R.S.M.E. I.R.S.E.E. I.R.S.S.E. I.R.S.S.
Central Public Works Department	C.E.S.—Group 'A'
Military Engineer Services	Indian Defence Service of Engineers (IDSE) Group A.
The Corps of Electronics and Mechanical Engg, Min. of Defence	AEE, Gr. 'A' (Mech. Engg. Post) in the Corps of EME, Min. of Defence. AEE, Gr. 'A' (Electrical Engg. Post) in the Corps of EME, Min. of Defence. AEE, Gr. 'A' (Elecronics & Telecommunication Engg. Post) in the Corps of EME, Min. of Defence.
Directorate General Ordnance Factories	I.O.F.S. Group A
Central Water Commission	C.W.E. Service (Group A)
Central Electricity Authority	C.P.E. Service (Group 'A')
Wireless Planning and Coordination Wing/Monitoring Organisation	Engineer, Group 'A'
Indian Navy	Indian Naval Armament Service, Assistant Naval Stores Officer, Grade-I
Border Roads Organisation	BRES
Directorate General of Supply and Disposals	I.S.S. Gr. 'A', I.I.S. Group 'A'
Department of Telecom	ITS Gr. 'A'; JTO [GCS] Gr 'B'
Ministry of Road Transport & Highways	Central Engineering Service (Roads) Group 'A'

NOTE—The period of apprenticeship if followed by appointment against a working posts on the Railways may be treated as Railway Service for the purpose of age concession.

(c) The upper age limit prescribed above will be further relaxable—

(i) Upto a maximum of five years if a candidate belongs to a Scheduled Caste or a Scheduled Tribe;

(ii) Upto a maximum of three years in the case of candidates belonging to Other Backward Classes who are eligible to avail of reservation applicable to such candidates. The closing date fixed for the receipt of the application will be treated as the date for determining the OBC status (including that of creamy layer) of the candidates.

(iii) Upto a maximum of five years if a candidate had ordinarily been domiciled in the State of Jammu & Kashmir during the period from the 1st January, 1980 to the 31st December, 1989.

(iv) Upto a maximum of three years in the case of Defence Service personnel disabled in operations during hostilities with any foreign country or in a disturbed area, and released as a consequence thereof;

(v) Upto a maximum of five years in the case of ex-servicemen including Commissioned Officers and ECOs/ SSCOs who have rendered at least five years Military Service as on **1st January, 2012** and have been released (i) on completion of assignment (including those whose assignment is due to be completed within one year from **1st January, 2012**) otherwise than by way of dismissal or discharge on account of misconduct or inefficiency, or (ii) on account of physical disability attributable to Military Service or (iii) on invalidment;

(vi) Upto a maximum of five years in the case of ECOs/SSCOs who have completed an initial period of assignment of five years of Military Services as on **1st January, 2012** and whose assignment has been extended beyond five years and in whose case the Ministry of Defence issues a certificate that they can apply for civil employment and they will be released on three months notice on selection from the date of receipt of offer of appointment;

(vii) Upto a maximum of 10 years in the case of blind, deaf-mute and orthopaedically handicapped persons.

NOTE (I)—Candidates belonging to the Scheduled Castes and the Scheduled Tribes and the Other Backward Classes who are also covered under any other clauses of Para 3 (II)(c) above, viz. those coming under the category of Ex-servicemen, persons domiciled in the State of J & K, blind, deaf-mute and orthopaedically handicapped etc. will be eligible for grant of cumulative age relaxation under both the categories.

NOTE (II)—The term ex-servicemen will apply to the persons who are defined as ex-servicemen in the ex-servicemen (Re-employment in Civil Services and Posts) Rules, 1979, as amended from time to time.

NOTE (III)—The age concession under Para 3(II) (c)(v) and (vi) will not be admissible to Ex-Servicemen and Commissioned Officers including ECOs/SSCOs, who are released on their own request.

NOTE (IV)—Notwithstanding, the provision of age relaxation under Para 3(II)(c)(vii) above, a physically handicapped candidate will be considered to be eligible for appointment only if he/she (after such physical examination as the Government or appointing authority, as the case may be, may prescribe) is found to satisfy the requirement of physical and medical standards for the concerned Services/Posts to be allocated to the physically handicapped candidates by the Government.

NOTE (V)— A candidate will be eligible to get the benefit of community reservation only in case the particular caste to which the candidates belong is included in the list of reserved communities issued by the Central Government. If a candidate indicates in his/her application form for Engineering Services Examination that he/she belongs to General category but subsequently writes to the Commission to change his/her category to a reserved one, such request shall not be entertained by the Commission.

While the above principle will be followed in general, there may be a few cases where there was a little gap (say 2-3 months) between the issuance of a Government Notifications enlisting a particular community in the list of any of the reserved communities and the date of submission of the application by the candidate. In such cases the request of change of community from General to Reserved may be considered by the Commission on merit.

N.B.—The candidature of a person who is admitted to the examination under the age concession mentioned in Para 3(II)(b) above shall be cancelled if, after submitting his application he/she resigns from service or his services are terminated by his/her department/office either before or after taking the examination. He/she will, however, continue to be eligible if he/she is retrenched from the service or post after submitting his application. A candidate who after submitting his application to the department is transferred to other department/office will be eligible to compete under departmental age concession.

SAVE AS PROVIDED ABOVE THE AGE LIMITS PRESCRIBED CAN IN NO CASE BE RELAXED.

The date of birth accepted by the Commission is that entered in the Matriculation or Secondary School Leaving Certificate or in a certificate recognised by an Indian University as equivalent to Matriculation or in an extract from a Register of matriculates maintained by a University, and that extract must be certified by the proper authority of the University or in the Higher Secondary or an equivalent examination certificate. These certificates are required to be submitted along with the Detailed Application Forms which will be required to be submitted by the candidates who qualify on the result of the written part of the examination.

No other document relating to age like horoscopes, affidavits, birth extracts from Municipal Corporation, service records and the like will be accepted.

The expression Matriculation/Secondary Examination Certificate in this part of the instruction includes the alternative certificates mentioned above.

NOTE 1:- CANDIDATES SHOULD NOTE THAT ONLY THE DATE OF BIRTH AS RECORDED IN THE MATRICULATION/ SECONDARY EXAMINATION CERTIFICATE OR AN EQUIVALENT CERTIFICATE ON THE DATE OF SUBMISSION OF APPLICATION WILL BE ACCEPTED BY THE COMMISSION AND NO SUBSEQUENT REQUEST FOR ITS CHANGE WILL BE CONSIDERED OR GRANTED.

NOTE 2:- CANDIDATES SHOULD ALSO NOTE THAT ONCE A DATE OF BIRTH HAS BEEN CLAIMED BY THEM AND ENTERED IN THE RECORDS OF THE COMMISSION FOR THE PURPOSE OF ADMISSION TO AN EXAMINATION, NO CHANGE WILL BE ALLOWED SUBSEQUENTLY (OR AT ANY OTHER EXAMINATION OF THE COMMISSION) ON ANY GROUNDS WHATSOEVER.

NOTE 3:- CANDIDATES SHOULD EXERCISE DUE CARE WHILE ENTERING THEIR DATE OF BIRTH IN THE RESPECTIVE COLUMN OF THE APPLICATION FORM. IF ON VERIFICATION AT ANY SUBSEQUENT STAGE, ANY VARIATION IS FOUND IN THEIR DATE OF BIRTH FROM THE ONE ENTERED IN THEIR MATRICULATION OR EQUIVALENT EXAMINATION CERTIFICATE, DISCIPLINARY ACTION WILL BE TAKEN AGAINST THEM BY THE COMMISSION UNDER THE RULES.

(III) Minimum Educational Qualification:

For admission to the examination, a candidate must have—

(a) obtained a degree in Engineering from a University incorporated by an Act of the Central or State Legislature in India or other Educational Institutions established by an Act of Parliament or declared to be deemed as Universities under Section 3 of the University Grants Commission Act, 1956; or

(b) passed Sections A and B of the Institution Examinations of the Institution of Engineers (India); or

(c) obtained a degree/diploma in Engineering from such foreign University/ College/Institution and under such conditions as may be recognised by the Government for the purpose from time to time, or

(d) passed Graduate Membership Examination of the Institute of Electronics and Telecommunication Engineers (India); or

(e) passed Associate Membership Examination Parts II and III/Sections A and B of the Aeronautical Society of India; or

(f) passed Graduate Membership Examination of the Institution of Electronics and Radio Engineers, London held after November, 1959.

Provided that a candidate for the post of Indian Naval Armament Service (Electronics Engineering Posts) and Engineer, Gr. 'A' in Wireless Planning & Coordination Wing/ Monitoring Organisation may possess any of the above qualifications or the qualification mentioned below namely:-

M.Sc. degree or its equivalent with Wireless Communication, Electronics, Radio Physics or Radio Engineering as a special subject.

NOTE-1—A candidate who has appeared at an examination the passing of which would render him educationally qualified for this examination, but has not been informed of the result, may apply for admission to the examination. A candidate

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who intends to appear at such a qualifying examination may also apply. Such candidates will be admitted to the examination, if otherwise eligible, but their admission would be deemed to be provisional and subject to cancellation, if they do not produce proof of having passed the requisite qualifying examination along with the Detailed Application Form which will be required to be submitted by the candidates who qualify on the result of written part of the examination.

NOTE-2—In exceptional cases, the Commission may treat a candidate, who has not any of the qualifications prescribed in this rule, as educationally qualified provided that he/she has passed examinations conducted by other institutions the standard of which in the opinion of the Commission justifies his/her admission to the examination.

NOTE-3—A candidate who is otherwise qualified but who has taken a degree from a foreign University which is not recognised by Government, may also apply to the Commission and may be admitted to the examination at the discretion of the Commission.

(IV) Physical standards

Candidates must be physically fit according to physical standards for admission to Engineering Services Examination, 2012 as per guidelines given in Appendix-II of the Rules for the Engineering Services Examination, 2012 published in the Gazette of India Extraordinary dated **10th March, 2012**.

4. FEE:

Candidates (excepting SC/ST/Female/PH who are exempted from payment of fee) are required to pay a fee of Rs. 100/- (Rupees One hundred only) either by remitting the money in any Branch of SBI by cash or by using net banking facility of State Bank of India/State Bank of Bikaner & Jaipur/State Bank of Hyderabad/State Bank of Mysore/State Bank of Patiala/State Bank of Travancore or by using Visa/Master Credit/Debit card.

For the applicants in whose case payments details have not been received from the bank they will be treated as fictitious payment cases and a list of all such applicants shall be made available on the Commission website within two weeks after the last day of submission of online application. These applicants shall also be intimated through e-mail to submit copy of proof of their payment to the Commission at the address mentioned in the e-mail. The applicant shall be required to submit the proof within 10 days from the date of such communication either by hand or by speed post to the Commission. In case, no response is received from the applicant their application shall be summarily rejected and no further correspondence shall be entertained in this regard.

ALL FEMALE CANDIDATES AND CANDIDATES BELONGING TO SCHEDULED CASTES/SCHEDULED TRIBES/PHYSICALLY HANDICAPPED CATEGORIES ARE EXEMPTED FROM PAYMENT OF FEE. NO FEE EXEMPTION IS, HOWEVER, AVAILABLE TO OBC CANDIDATES AND THEY ARE REQUIRED TO PAY THE PRESCRIBED FEE IN FULL.

Physically handicapped persons are exempted from the payment of fee provided they are otherwise eligible for appointment to the Services/Posts to be filled on the results of this examination on the basis of the standards of medical fitness for these Services/Posts (including any concessions specifically extended to the physically handicapped). A physically handicapped candidate claiming age relaxation/fee concession will be required by the Commission to submit along with their Detailed Application Form, a certified copy of the certificate from a Government hospital/Medical Board in support of his claim for being physically handicapped.

NOTE: Notwithstanding the aforesaid provision for age relaxation/fee exemption, a physically handicapped candidate will be considered to be eligible for appointment only if he/she (after such physical examination as the Government or the appointing authority, as the case may be, may prescribe) is found to satisfy the requirements of physical and medical standards for the concerned Services/Posts to be allocated to Physically Handicapped candidates by the Government.

NOTE (i) : Applications without the prescribed fee (unless remission of fee is claimed) shall be summarily rejected.

NOTE (ii): Fee once paid shall not be refunded under any circumstances nor can the fee be held in reserve for any other examination or selection.

NOTE (iii):- If any candidate who took the Engineering Services Examination held in 2011 wishes to apply for admission to this examination, he/she must apply within the prescribed date without waiting for the results or an offer of appointment.

5. HOW TO APPLY:

(a) Candidates are required to apply Online using the link **www.upsconline.nic.in.** Detailed instructions for filling up online applications are available on the above mentioned website.

(b) The applicants are advised to submit only single application; however, if due to any unavoidable situation, if he/she submits another/multiple applications, then he/she must ensure that application with the higher RID is complete in all respects like applicants' details, examination centre, photograph, signature, fee etc. The applicants who are submitting multiple applications should note that only the applications with higher RID (Registration ID) shall be entertained by the Commission and fee paid against one RID shall not be adjusted against any other RID.

(c) All candidates, whether already in Government Service, or in Government owned industrial undertakings or other similar organisations or in private employment, should apply online direct to the Commission.

Persons, already in Government service whether in a permanent or temporary capacity or as work-charged employees other than causal or daily rated employees or those serving under public enterprises are, however, required to inform their Head of Office/Department that they have applied for the Examination. Candidates should note that in case communication is received from their employer by the Commission **withholding** permission to the candidates applying for/appearing at the Examination, their application will be liable to be rejected/ candidature will be liable to be cancelled.

NOTE : WHILE FILLING IN HIS/HER APPLICATION FORM, THE CANDIDATE SHOULD CAREFULLY DECIDE ABOUT HIS/HER CHOICE FOR THE CENTRE AND ENGINEERING DISCIPLINE FOR THE EXAMINATION.

IF ANY CANDIDATE APPEARS AT A CENTRE/ENGINEERING DISCIPLINE OTHER THAN THE ONE INDICATED BY THE COMMISSION IN HIS/HER E-ADMISSION CERTIFICATE PAPERS OF SUCH A CANDIDATE WILL NOT BE VALUED AND HIS/HER CANDIDATURE WILL BE LIABLE TO CANCELLATION.

CANDIDATES ARE NEITHER REQUIRED TO SUBMIT HARD COPY/PRINTOUT OF THEIR APPLICATION FORM NOR ANY CERTIFICATE IN SUPPORT OF THEIR CLAIMS REGARDING AGE, EDUCATIONAL QUALIFICATIONS, SCHEDULED CASTES/SCHEDULED TRIBES/OTHER BACKWARD CLASSES AND PHYSICALLY HANDICAPPED ETC.

The candidates applying for the Examination should ensure that they fulfil all the eligibility conditions for admission to the Examination. Their admission at all the stages of examination for which they are admitted by the Commission viz. Written Examination and Interview Test will be purely provisional, subject to their satisfying the prescribed eligibility conditions. If on verification at any time before or after the Written examination or Interview Test, it is found that they do not fulfil any of the eligibility conditions, their candidature of the Examination will be cancelled by the Commission.

Candidates are requested to keep ready the attested copies of the following documents for submission to the Commission soon after the declaration of the results of the written Examination which is likely to be declared in the month of **December, 2012**.

1. Certificate of Age.
2. Certificate of Educational Qualification.
3. Certificate in support of claim to belong to Scheduled Castes, Scheduled Tribes and Other Backward Classes, wherever applicable.
4. Certificate in support of claim for age/ fee concession, wherever applicable.

Immediately after the declaration of the written results successful candidates will be required to fill in Detailed Application Form online. Attested copies of the above mentioned certificates will have to be sent to the Commission at that time. The originals will have to be produced at the time of interview. If any of their claims is found to be incorrect, they may render themselves liable to disciplinary action by the Commission in terms of Rule 11 of the Rules for **Engineering Services Examination, 2012 notified in the Gazette of India Extraordinary dated 10th March, 2012 and also reproduce below**:-

A candidate who is or has been declared by the Commission to be guilty of:

(i) obtaining support for his candidature by any means; or

(ii) impresonating; or

(iii) procuring impersonation by any person; or

(iv) submitting fabricated documents or documents which have been tampered with; or

(v) making statements which are incorrect or false or suppressing material information; or

(vi) resorting to any other irregular or improper means in connection with his candidature for the examination; or

(vii) using unfair means during the examination; or

(viii) writing irrelevant matter including obscene language or pornographic matter in the script(s); or

(ix) misbehaving in any other manner in the examination hall; or

(x) harassing or doing bodily harm to the staff employed by the Commission for the conduct of their examinations; or

(xi) being in possession of or using any cellular/mobile phone/pager or any other electronic equipment or device or any other equipment capable of being used as a communication device during the examination; or

(xii) violating any of the instructions issued to candidates along with their admission certificate permitting them to take the examination; or

(xiii) attempting to commit or as the case may be abetting the commission of all or any of the acts specified in the foregoing clauses, may in addition to rendering himself liable to criminal prosecution, be liable—

(a) to be disqualified by the Commission from the examination for which he/she is a candidate; and/or

(b) to be debarred either permanently or for a specified period—

(i) by the Commission from any examination or selection held by them;

(ii) by the Central Government from any employment under them; and

(c) if he/she is already in service under Government to disciplinary action under the appropriate rules.

Provided that no penalty under this rule shall be imposed except after—

(i) giving the candidate an opportunity of making such representation in writing as he/she may wish to make on that behalf, and

(ii) taking the representation if any submitted by the candidate, within the period allowed to him/her into consideration.

6. LAST DATE FOR RECEIPT OF APPLICATIONS:

The Online Applications can be filled upto **9th April, 2012 till 11.59 PM** after which the link will be disabled.

7. CORRESPONDENCE WITH COMMISSION :

The Commission will not enter into any correspondence with the candidates about their candidature except in the following cases :

(i) The eligible candidates shall be issued an e-Admission Certificate three weeks before the commencement of the examination. The e-Admission Certificate will be made available in the UPSC website **[www.upsc.gov.in]** for downlading by candidates. No Admission Certificate will be sent by post.

(ii) If a candidate does not receive his/her e-admit card or any other communication regarding his/her candidature for the examination **one week** before the commencement of the examination, he/she should at once contact the Commission. Information in this regard can also be obtained from the Facilitation Counter located in the Commission's Office either in person or over phone Nos. 011-23381125/ 011-23385271/011-23098543. **In case no communication is received in the Commission's Office from the candidate regarding non-receipt of his/her e-Admission Certificate at least one week before the examination, he/she himself/herself will be solely responsible for non-receipt of his/her e-Admission Certificate**.

No candidate will ordinarily be allowed to take the examination unless he/she holds e-Admission Certificate for the examination. On receipt of e-Admission Certificate, check it carefully and bring discrepancies/errors, if any, to the notice of UPSC immediately.

The candidates should note that their admission to the examination will be purely provisional based on the information given by them in the Application Form. This will be subject to verification of all the eligibility conditions by the UPSC.

(iii) The mere fact that an e-Admission Certificate of admission to the Examination has been issued to a candidate will not imply that his/her candidature has been finally cleared by the Commission, or that the entries made by the candidate in his/her application for the Examination have been accepted by the Commission as true and correct. Candidates may note that the Commission takes up the verification of eligibility conditions of a candidate, with reference to original documents, only after the candidate has qualified for Interview or Personality Test on the result of the written part of the examination. Unless candidature is formally confirmed by the Commission, it continues to be provisional.

The decision of the Commission as to the acceptance of the application of a candidate and his/her eligibility or otherwise for admission to the Examination shall be final. Candidates should note that the name in the Admission Certificate, in some cases may be abbreviated due to technical reasons.

(iv) If a candidate receives an e-Admission Certificate in respect of some other candidate on account of handling error, the same should be immediately brought to the notice of Commission with a request to issue the correct e-Admission Certificate. Candidates may note that they will not be allowed to take the examination on the strength of an e-Admission Certificate issued in respect of another candidate.

Continued

(v) Candidates must ensure that their e-mail ids given in their applications are valid and active.

IMPORTANT: ALL COMMUNICATIONS TO THE COMMISSION SHOULD INVARIABLY CONTAIN THE FOLLOWING PARTICULARS:

1. NAME AND YEAR OF THE EXAMINATION.
2. REGISTRATION ID (RID)
3. ROLL NO. (IF RECEIVED).
4. NAME OF CANDIDATE IN FULL AND IN BLOCK LETTERS.
5. VALID AND ACTIVE E-MAIL ADDRESS
6. COMPLETE POSTAL ADDRESS AS GIVEN IN THE APPLICATION.

N.B. (i) COMMUNICATIONS NOT CONTAINING THE ABOVE PARTICULARS MAY NOT BE ATTENDED TO.

N.B. (ii) IF A LETTER/COMMUNICATION IS RECEIVED FROM A CANDIDATE AFTER AN EXAMINATION HAS BEEN HELD AND IT DOES NOT GIVE HIS/HER FULL NAME AND ROLL NUMBER, IT WILL BE IGNORED AND NO ACTION WILL BE TAKEN THEREON.

8. For being considered against the vacancies reserved for them, the physically disabled persons should have disability of Forty per cent (40%) or more. However, such candidates shall be required to meet one or more of the following physical requirements/abilities which may be necessary for performing the duties in the concerned Services/Posts :-

Code		Physical Requirements
F	1.	Work performed by manipulating (with Fingers)
PP	2.	Work performed by pulling & pushing
L	3.	Work performed by lifting
KC	4.	Worked performed by kneeling and cronching
B	5.	Work performed by bending
S	6.	Work performed by sitting (on bench or chair)
ST	7.	Work performed by standing
W	8.	Work performed by walking
SE	9.	Work performed by seeing
H	10.	Work performed by hearing/ speaking
RW	11.	Work performed by reading and writing.

The functional classification in their case shall be, one or more of the following, consistent with the requirements of the concerned Services/Posts :

Functional Classification

Code		Functions	
BL	1.	both legs affected but not arms.	
BA	2.	Both arms affected -	a. impaired reach b. weakness of grip.
BLA	3.	both legs and both arms affected.	
OL	4.	one leg affected (R or L)	a. impaired reach b. weakness of grip c. ataxic
OA	5.	one arm affected (R or L)	a. impaired reach b. weakness of grip. c. ataxic
BH	6.	stiff back and hips (cannot sit or stood)	
MW	7.	Muscular weakness and limited physical endurance	
B	8.	the blind	
PB	9.	Paritially blind	
D	10.	the deaf	
PD	11.	Partially deaf	

9. WITHDRAWAL OF APPLICATIONS:

NO REQUEST FOR WITHDRAWAL OF CANDIDATURE RECEIVED FROM A CANDIDATE AFTER HE/SHE HAS SUBMITTED HIS/HER APPLICATION WILL BE ENTERTAINED UNDER ANY CIRCUMSTANCES.

(R.K. SINHA)
JOINT SECRETARY
UNION PUBLIC SERVICE COMMISSION

APPENDIX-I

PLAN OF EXAMINATION

1. The Examination shall be conducted according to the following plan:-

Part I—The written Examination will comprise two sections—Section I consisting only of objective types of questions and Section II of conventional papers. Both Sections will cover the entire syllabus of the relevant engineering disciplines viz. Civil Engineering, Mechanical Engineering, Electrical Engineering and Electronics & Telecommunication Engineering. The standard and syllabi prescribed for these papers are given in Schedule to the Appendix. The details of the written Examination i.e. subject, duration and maximum marks allotted to each subject are given in para 2 below.

Part II—Personality test carrying a maximum of 200 marks of such of the candidates who qualify on the basis of the written examination.

2. The following will be the subjects for the written examination:-

CATEGORY I
CIVIL ENGINEERING

Subject	Duration	Maximum Marks
Section I- Objective Papers		
General Ability Test (Part A: General English) (Part B: General Studies)	2 hrs.	200
Civil Engineering - Paper I	2 hrs.	200
Civil Engineering - Paper II	2 hrs.	200
Section II- Conventional Papers		
Civil Engineering - Paper I	3 hrs.	200
Civil Engineering - Paper II	3 hrs.	200
TOTAL		1000

CATEGORY II
MECHANICAL ENGINEERING

Subject	Duration	Maximum Marks
Section I- Objective Papers		
General Ability Test (Part A: General English) (Part B: General Studies)	2 hrs.	200
Mechanical Engineering - Paper I	2 hrs.	200
Mechanical Engineering - Paper II	2 hrs.	200
Section II- Conventional Papers		
Mechanical Engineering - Paper I	3 hrs.	200
Mechanical Engineering - Paper II	3 hrs.	200
TOTAL		1000

CATEGORY III
ELECTRICAL ENGINEERING

Subject	Duration	Maximum Marks
Section I- Objective Papers		
General Ability Test (Part A: General English) (Part B: General Studies)	2 hrs.	200
Electrical Engineering Paper I	2 hrs.	200
Electrical Engineering - Paper II	2 hrs.	200
Section II- Conventional Papers		
Electrical Engineering - Paper I	3 hrs.	200
Electrical Engineering - Paper II	3 hrs.	200
TOTAL		1000

CATEGORY IV
ELECTRONICS AND TELECOMMUNICATION ENGINEERING

Subject	Duration	Maximum Marks
Section I- Objective Papers		
General Ability Test (Part A: General English) (Part B: General Studies)	2 hrs.	200
Electronics & Telecommunication Engineering - Paper I	2 hrs.	200
Electronics & Telecommunication Engineering - Paper II	2 hrs.	200
Section II- Conventional Papers		
Electronics & Telecommunication Engineering - Paper I	3 hrs.	200
Electronics & Telecommunication Engineering - Paper II	3 hrs.	200
TOTAL		1000

NOTE : Candidates are advised to read carefully special instructions to candidates for conventional type tests and objective type tests given in Appendix-III (Part A & Part B) including the procedure regarding filling in the Answer Sheet of objective type tests in the Examination Hall.

3. In the Personality Test special attention will be paid to assessing the candidate's capacity for leadership, initiative and intellectual curiosity, tact and other social qualities, mental and physical energy, powers of practical application and integrity of character.

4. Conventional papers must be answered in English. Question papers will be set in English only.

5. Candidates must write the papers in their own hand. In no circumstances will they be allowed the help of a scribe to write the answers for them. However, an extra time of twenty minutes per hour shall be permitted for the candidates with locomotor disability/cerebral palsy where dominant (writing) extremity is affected to the extent of slowing the performance of function (minimum of 40% impairment) in the conventional type paper.

6. The Commission have discretion to fix minimum qualifying marks in any or all the papers of the examination. The Objective Type papers as contained in Section-I of the Plan of the Examination will be evaluated first and evaluation of the Conventional Type Papers contained in Section-II of the Plan of Examination will be done only of those candidates who obtain the minimum qualifying marks in Objective Types Papers, as fixed by the Commission.

7. Marks will not be allotted for mere superficial knowledge.

8. Deduction upto 5 per cent of the maximum marks for the written papers will be made for illegible handwriting.

9. Credit will be given for orderly, effective and exact expression combined with due economy of words in the conventional papers of the Examination.

10. In the question papers, wherever required, SI units will be used.

NOTE: Candidates will be supplied with standard tables/charts in SI units in the Examination hall for reference purpose, wherever considered necessary.

11. Candidates are permitted to bring and use battery operated pocket calculators for conventional (essay) type papers only. Loaning or inter-changing of calculators in the Examination hall is not permitted.

It is also important to note that candidates are not permitted to use calculators for answering Objective Type Paper (Test book lets). They should not, therefore, bring the same inside the Examination Hall.

12. Candidates should use only International form of Indian numerals (e.g. 1,2,3,4,5,6 etc.) while answering question papers.

SCHEDULE TO APPENDIX-I

Standard and Syllabi

The standard of paper in General Ability Test will be such as may be expected of an Engineering/Science Graduate. The standard of papers in other subjects will approximately be that of an Engineering Degree Examination of an Indian University. There will be no practical examination in any of the subjects.

GENERAL ABILITY TEST

Part A: General English. The question paper in General English will be designed to test the candidate's understanding of English and workmanlike use of words.

Part B: General Studies: The paper in General Studies will include knowledge of current events and of such matters as of everyday observation and experience in their scientific aspects as may be expected of an educated person. The paper will also include questions on History of India and Geography of a nature which candidates should be able to answer without special study.

CIVIL ENGINEERING

(For both objective and conventional type papers)

PAPER-I

1. **BUILDING MATERIALS**
   Timber : Different types and species of structural timber, density-moisture relationship, strength in different directions, defects, influence of defects on permissible stress, preservation, dry and wet rots, codal provisions for design, plywood.
   Bricks : Types, Indian Standard classification, absorption, saturation factor, strength in masonry, influence of morter strength on masonry strength.
   Cement : Compounds of, different types, setting times, strength.
   Cement Mortar : Ingredients, proportions, water demand, mortars for plastering and masony.
   Concrete : Importance of W/C Ratio, Strength, ingredients including admixtures, worksability, testing for strength, elasticity, non-destructive testing, mix design methods.
2. **SOLID MECHANICS**
   Elastic constants, stress, plane stress, Mohr's circle of stress, strains, plane strain, Mohr's circle of strain, combined stress; Elastic theories of failure; Simple bending, shear; Torsion of circular and rectangular sections and simple members.
3. **STRUCTURAL ANALYSIS**
   Analysis of determinate structures - different methods including graphical methods.
   Analysis of indeterminate skeletal frames - moment distribution, slope-deflection, stiffness and force methods, energy methods, Muller-Breslau principle and application.
   Plastic analysis of indeterminate beams and simple frames - shape factors.
4. **DESIGN OF STEEL STRUCTURES**
   Principles of working stress method. Design of connections, simple members, Built-up sections and frames, Design of Industrial roofs. Principles of ultimate load design. Design of simple members and frames.
5. **DESIGN OF CONCRETE AND MASONRY STRUCTURES**
   Limit state design for bending, shear, axial compression and combined forces. Codal provisions for slabs, beams, walls and footings. Working stress method of design of R.C. members.
   Principles of prestressed concrete design, materials, methods of prestress-

Continued

ing, losses. Design of simple members and determinate structures. Introductions to prestressing of indeterminate structures.
Design of brick masonry as per I.S. Codes.

6. **CONSTRUCTION PRACTICE, PLANNING AND MANAGEMENT**
Concreting Equipment:
Weight Batcher, Mixer, vibrator, batching plant, concrete pump.
Cranes, hoists, lifting equipment.
Earthwork Equipment :
Power shovel, hoe, dozer, dumper, trailers and tractor, rollers, sheep foot rollers, pumps.
Construction, Planning and Management :
Bar chart, linked bar chart, work-break down structures, Activity - on - arrow diagrams. Critical path, probabilistic activity durations; Event-based networks.
PERT network: Time-cost study, crashing; Resource allocation.

PAPER-II

1. **(a) FLUID MECHANICS, OPEN CHANNEL FLOW, PIPE FLOW**
Fluid Properties, Pressure, Thrust, Buoyancy; Flow Kinematics; Integration of flow equations; Flow measurement; Relative motion; Moment of momentum; Viscosity, Boundary layer and Control, Drag, Lift; dimensional Analysis, Modelling; Cavitation; Flow oscillations; Momentum and Energy principles in Open channel flow, Flow controls, Hydraulic jump, Flow sections and properties; Normal flow, Gradually varied flow; Surges; Flow development and losses in pipe flows, Measurements; Siphons; Surges and Water hammer; Delivery of Power Pipe networks.
(b) HYDRAULIC MACHINES AND HYDROPOWER
Centrifugal pumps, types, performance parameters, scaling, pumps in parallel; Reciprocating pumps, air vessels, performance parameters; Hydraulic ram; Hydraulic turbines, types, performance parameters, controls, choice; Power house, classification and layout, storage, pondage, control of supply.

2. **(a) HYDROLOGY**
Hydrological cycle, precipitation and related data analyses, PMP, unit and synthetic hydrographs; Evaporation and transpiration; Floods and their management, PMF; Streams and their gauging; River morphology; Routing of floods; Capacity of Reservoirs.
(b) WATER RESOURCES ENGINEERING
Water resources of the globe: Multipurpose uses of Water: Soil-Plant-Water relationships, irrigation systems, water demand assessment; Storages and their yields, ground water yield and well hydraulics; Waterlogging, drainage design; Irrigation revenue; Design of rigid boundary canals, Lacey's and Tractive force concepts in canal design, lining of canals; Sediment transport in canals; Non-Overflow and overflow sections of gravity dams and their design, Energy dissipators and tailwater rating; Design of headworks, distribution works, falls, cross-drainage works, outlets; River training.

3. **ENVIRONMENTAL ENGINEERING**
(a) WATER SUPPLY ENGINEERING
Sources of supply, yields, design of intakes and conductors; Estimation of demand; Water quality standards; Control of Water-borne diseases; Primary and secondary treatment, detailing and maintenance of treatment units; Conveyance of treatment units; Conveyance and distribution systems of treated water, leakages and control; Rural water supply; Institutional and industrial water supply.
(b) WASTE WATER ENGINEERING:
Urban rain water disposal; Systems of sewage collection and disposal; Design of sewers and sewerage systems; pumping; Characteristics of sewage and its treatment, Disposal of products of sewage treatment, streamflow rejuvenation Institutional and industrial sewage management; Plumbing Systems; Rural and semi-urban sanitation.
(c) SOLID WASTE MANAGEMENT
Source, classification collection and disposal; Design and Management of landfills.
(d) AIR AND NOISE POLLUTION AND ECOLOGY
Sources and effects of air pollution, monitoring of air pollution; Noise pollution and standards; Ecological chain and balance, Environmental assessment.

4. **(a) SOIL MECHANICS**
Properties of soil, classification and interrelationship; Compaction behaviour, methods of compaction and their choice; Permeability and seepage, flow nets, Inverted filters; Compressibility and consolidation; Shearing resistance, stresses and failure; soil testing in laboratory and insitu; Stress path and applications; Earth pressure theories, stress distribution in soil; soil exploration, samplers, load tests, penetration tests.
(b) FOUNDATION ENGINEERING
Types of foundations, Selection criteria, bearing capacity, settlement, laboratory and field tests; Types of piles and their design and layout, Foundations on expansive soils, swelling and its prevention, foundation on swelling soils.

5. **(a) SURVEYING**
Classification of surveys, scales, accuracy; Measurement of distances - direct and indirect methods; optical and electronic devices; Measurement of directions, prismatic compass, local attraction; Theodolites - types; Measurement of elevations - Spirit and trigonometric levelling; Relief representation; Contours; Digital elevation modelling concept; Establishment of control by triangulations and traversing - measurements and adjustment of observations, computation of coordinates; Field astronomy, Concept of global positioning system; Map preparation by plane tabling and by photogrammetry; Remote sensing concepts, map substitutes.
(b) TRANSPORTATION ENGINEERING
Planning of highway systems, alignment and geometric design, horizontal and vertical curves, grade separation; Materials and construction methods for different surfaces and maintenance: Principles of pavement design; Drainage.
Traffic surveys, Intersections, signalling: Mass transit systems, accessibility, networking.
Tunnelling, alignment, methods of construction, disposal of muck, drainage, lighting and ventilation, traffic control, emergency management.
Planning of railway systems, terminology and designs, relating to gauge, track, controls, transits, rolling stock, tractive power and track modernisation; Maintenance; Appurtenant works; Containerisation.
Harbours - layouts, shipping lanes, anchoring, location identification; Littoral transport with erosion and deposition; sounding methods; Dry and Wet docks, components and operational Tidal data and analyses.
Airports - layout and orientation; Runway and taxiway design and drainage management; Zoning laws; Visual aids and air traffic control; Helipads, hangers, service equipment.

MECHANICAL ENGINEERING

(For both objective and conventional type papers)

PAPER-I

1. **Thermodynamics, Cycles and IC Engines:** Basic concepts, Open and Closed systems. Heat and work. Zeroth, First and Second Law, Application to non-Flow and Flow processors. Entropy, Availability, Irreversibility and Tds relations. Claperyron and real gas equations, Properties of ideal gases and vapours. Standard vapour, Gas power and Refrigeration cycles. Two stage compressor. C-I and S.I. Engines. Pre-ignition, Detonation and Diesel-knock, Fuel injection and Carburation, Supercharging. Turboprop and Rocket engines, Engine Cooling, Emission & Control, Flue gas analysis, Measurement of Calorific values. Conventional and Nuclear fuels, Elements of Nuclear power production.

2. **Heat Transfer and Refrigeration and Airconditioning**: Modes of heat transfer. One dimensional steady and unsteady conduction. Composite slab and Equivalent Resistance. Heat dissipation from extended surfaces, Heat exchangers, Overall heat transfer coefficient, Empirical correlations for heat transfer in laminar and turbulent flows and for free and forced Convection, Thermal boundary layer over a flat plate. Fundamentals of diffusive and connective mass transfer, Black body and basic concepts in Radiation, Enclosure theory, Shape factor, Net work analysis. Heat pump and Refrigeration cycles and systems, Refrigerants. Condensers, Evaporates and Expansion devices, Psychrometry, Charts and application to air conditioning, Sensible heating and cooling, Effective temperature, comfort indices, Load calculations, Solar refrigerations, controls, Duct design.

3. **Fluid Mechanics.**
Properties and classification of fluids, Manometry, forces on immersed surfaces, Center of pressure, Buoyancy, Elements of stability of floating bodies. Kinematics and Dynamics.
Irrotational and incompressible. Inviscid flow. Velocity potential, Pressure field and Forces on immersed bodies. Bernoulli's equation, Fully developed flow through pipes, Pressure drop calculations, Measurement of flow rate and Pressure drop. Elements of boundary layer theory, Integral approach, Laminar and tubulent flows, Separations. Flow over weirs and notches. Open channel flow, Hydraulic jimp. Dimensionless numbers, Dimensional analysis, Similitude and modelling. One-dimensional isentropic flow, Normal shock wave, Flow through convergent - divergent ducts, Oblique shock-wave, Rayleigh and Fanno lines.

4. **Fluid Machinery and Steam Generators.**
Performance, Operation and control of hydraulic Pump and impulse an reaction Turbines, Specific speed, Classification. Energy transfer, Coupling, Power transmission, Steam generators Fire-tube and water-tube boilers. Flow of steam through Nozzles and Diffusers, Wetness and condensation. Various types of steam and gas Turbines, Velocity diagrams. Partial admission. Reciprocating, Centrifugal and axial flow Compressors, Multistage compression, role of Mach Number, Reheat, Regeneration, Efficiency, Governance.

PAPER - II

5. **THEORY OF MACHINES**
Kinematic and dynamic analysis of planer mechanisms. Cams. Gears and gear trains. Flywheels. Governors. Balancing of rigid rotors and field balancing. Balancing of single and multicylinder engines, Linear vibration analysis of mechanical systems. Critical speeds and whirling of shafts Automatic controls.

6. **MACHINE DESIGN**
Design of Joints : cotters, keys, splines, welded joints, threaded fasteners, joints formed by interference fits. Design of friction drives : couplings and clutches, belt and chain drives, power screws.
Design of Power transmission systems : gears and gear drives shaft and axle, wire ropes.
Design of bearings : hydrodynamics bearings and rolling element bearings.

7. **STRENGTH OF MATERIALS**
Stress and strain in two dimensions, Principal stresses and strains, Mohr's construction, linear elastic materials, isotropy and anisotropy, stress-strain relations, uniaxial loading, thermal stresses. Beams : Bending moment and shear force diagram, bending stresses and deflection of beams. Shear stress distribution. Torsion of shafts, helical springs. Combined stresses, thick-and think-walled pressure vessels. Struts and columns. Strain energy concepts and theories of failure.

8. **ENGINEERING MATERIALS**
Basic concepts on structure of solids. Crystalline materials. Detects in crystalline materials. Alloys and binary phase diagrams. Structure and properties of common engineering materials. Heat treatment of steels. Plastics, Ceramics and composite materials. Common applications of various materials.

9. **PRODUCTION ENGINEERING**
Metal Forming : Basic Principles of forging, drawing and extrusion; High energy rate forming; Powder metallurgy.
Metal Casting : Die casting, investment casting, Shall Moulding, Centrifugal Casting, Gating & Riser design; melting furnaces.
Fabrication Processes : Principles of Gas, Arc, Shielded arc Welding; Advanced Welding Processes, Weldability: Metallurgy of Welding.
Metal Cutting : Turning, Methods of Screw Production, Drilling, Boring, Milling, Gear Manufacturing, Production of flat surfaces, Grinding & Finishing Processes. Computer Controlled Manufacturing Systems-CNC, DNC, FMS, Automation and Robotics.
Cutting Tools Materials, Tool Geometry, Mechanism of Tool Wear, Tool Life & Machinability; Measurement of cutting forces. Economics of Machining. Unconventional Machining Processes. Jigs and Fixtures. Fits and tolerances, Measurement of surface texture, Comparators Alignment tests and reconditioning of Machine Tools.

10. **INDUSTRIAL ENGINEERING**
Production Planning and Control : Forecasting - Moving average, exponential smoothing, Operations, scheduling; assembly line balancing, Product development, Break-even analysis, Capacity planning, PERT and CPM.
Control Operations : Inventory control ABC analysis, EOQ model, Materials requirement planning. Job design, Job standards, Work measurement, Quality Management - Quality analysis and control. Operations Research : Linear Programming - Graphical and Simplex methods, Transportation and assignment models. Single server queueing model.
Value Engineering : Value analysis for cost/value.

11. **ELEMENTS OF COMPUTATION**
Computer Organisation, Flow charting, Features of Common computer Languages - FORTRAN, d Base III, Lotus 1-2-3, C and elementary Programming.

ELECTRICAL ENGINEERING

(For both objective and conventional types papers)

PAPER - I

1. **EM Theory**
Electric and magnetic fields. Gauss's

Continued

Law and Amperes Law. Fields in dielectrics, conductors and magnetic materials. Maxwell's equations. Time varying fields. Plane-Wave propagating in dielectric and conducting media. Transmission lines.

2. **Electrical Materials**
Band Theory, Conductors, Semi-conductors and Insulators. Super-conductivity. Insulators for electrical and electronic applications. Magnetic materials. Ferro and ferri magnetism. Ceramics, Properties and applications. Hall effect and its applications. Special semi conductors.

3. **Electrical Circuits**
Circuits elements. Kirchoff's Laws. Mesh and nodal analysis. Network Theorems and applications. Natural response and forced response. Transient response and steady state response for arbitrary inputs. Properties of networks in terms of poles and zeros. Transfer function. Resonant circuits. Threephase circuits. Two-port networks. Elements of two-element network synthesis.

4. **Measurements and Instrumentation**
Units and Standards. Error analysis, measurement of current, Voltage, power, Power-factor and energy. Indicating instruments. Measurement of resistance, inductance, Capacitance and frequency. Bridge measurements. Electronic measuring instruments. Digital Voltmeter and frequency counter. Transducers and their applications to the measurement of non-electrical quantities like temperature, pressure, flow-rate displacement, acceleration, noise level etc. Data acquisition systems. A/D and D/A converters.

5. **CONTROL SYSTEMS**
Mathematical modelling of physical systems. Block diagrams and signal flow graphs and their reduction. Time domain and frequency domain analysis of linear dynamical system. Errors for different type of inputs and stability criteria for feedback systems. Stability analysis using Routh-Hurwitz array, Nyquist plot and Bode plot. Root locus and Nicols chart and the estimation of gain and phase margin. Basic concepts of compensator design. State variable matrix design. Sampled data system and performance of such a system with the samples in the error channel. Stability of sampled data system. Elements of non-linear control analysis. Control system components, electromechanical, hydraulic, pneumatic components.

PAPER - II

1. **Electrical Machines and Power Transformers**
Magnetic Circuits - Analysis and Design of Power transformers. Construction and testing. Equivalent circuits. Losses and efficiency. Regulation. Auto-transformer, 3-phase transformer. Parallel operation.
Basic concepts in rotating machines. EMF, torque, basic machine types. Construction and operation, leakage losses and efficiency.
D.C. Machines. Construction, Excitation methods. Circuit models. Armature reaction and commutation. Characteristics and performance analysis. Generators and motors. Starting and speed control. Testing, Losses and efficiency.
Synchronous Machines. Construction. Circuit model. Operating characteristics and performance analysis. Synchronous reactance. Efficiency. Voltage regulation. Salient-pole machine, Parallel operation. Hunting. Short circuit transients.
Induction Machines. Construction. Principle of operation. Rotating fields. Characteristics and performance analysis. Determination of circuit model. Circle diagram. Starting and speed control.
Fractional KW motors. Single-phase synchronous and induction motors.

2. **Power systems**
Types of Power Stations, Hydro, Thermal and Nuclear Stations. Pumped storage plants. Economics and operating factors.
Power transmission lines. Modeling and performance characteristics. Voltage control. Load flow studies. Optimal power system operation. Load frequency control. Symmetrical short circuit analysis. Z-Bus formulation. Symmetrical Components. Per Unit representation. Fault analysis. Transient and steady-state stability of power systems. Equal area criterion. Power system Transients. Power system Protection Circuit breakers. Relays. HVDC transmission.

3. **ANALOG AND DIGITAL ELECTRONICS AND CIRCUITS**
Semiconductor device physics, PN junctions and transistors, circuit models and parameters, FET, Zener, tunnel, Schottky, photo diodes and their applications, rectifier circuits, voltage regulators and multipliers, switching behavior of diodes and transistors.
Small signal amplifiers, biasing circuits, frequency response and improvement, multistage amplifiers and feed-back amplifiers, D.C. amplifiers, coupling methods, push pull amplifiers, operational amplifiers, wave shaping circuits. Multivibrators and flip-flops and their applications. Digital logic gage families, universal gates-combinational circuits for arithmetic and logic operational, sequential logic circuits. Counters, registers, RAM and ROMs.

4. **MICROPROCESSORS**
Microprocessor architecture-Instruction set and simple assembly language programming. Interfacing for memory and I/O. Applications of Micro-processors in power system.

5. **COMMUNICATION SYSTEMS**
Types of modulation; AM, FM and PM. Demodulators. Noise and bandwidth considerations. Digital communication systems. Pulse code modulation and demodulation. Elements of sound and vision broadcasting. Carrier communication. Frequency division and time division multiplexing, Telemetry system in power engineering.

6. **POWER ELECTRONICS**
Power Semiconductor devices. Thyristor. Power transistor, GTOs and MOSFETs. Characteristics and operation. AC to DC Converters; 1-phase and 3-phase DC to DC Converters. AC regulators. Thyristor controlled reactors; switched capacitor networks. Inverters; single-phase and 3-phase. Pulse width modulation. Sinusoidal modulation with uniform sampling. Switched mode power supplies.

ELECTRONICS & TELECOMMUNICATION ENGINEERING

(For both objective and conventional type papers)

PAPER - I

1. **Materials and Components**
Structure and properties of Electrical Engineering materials; Conductors, Semiconductors and Insulators, magnetic, Ferroelectric, Piezoelectric, Ceramic, Optical and Super-conducting materials. Passive components and characteristics Resistors, Capacitors and Inductors; Ferrities, Quartz crystal Ceramic resonators, Electromagnetic an Electromechanical components.

2. **Physical Electronics, Electron Devices and ICs**
Electrons and holes in semiconductors, Carrier Statistics, Mechanism of current flow in a semiconductor, Hall effect; Junction theory; Different types of diodes and their characteristics; Bipolar Junction transistor; Field effect transistors; Power switching devices like SCRs, CTOs, power MOSFETs; Basics of ICs - bipolar, MOS and CMOS types; basic of Opto Electronics.

3. **Signals and Systems**
Classification of signals and systems: System modelling in terms of differential and difference equations; State variable representation; Fourier series; Fourier representation; Fourier series; Fourier transforms and their application to system analysis; Laplace transforms and their application to system analysis; Convolution and superposition integrals and their applications; Z-transforms and their applications to the analysis and characterisation of discrete time systems; Random signals and probability, Correlation functions; Spectral density; Response of linear system to random inputs.

4. **Network theory**
Network analysis techniques; Network theorems, transient response, steady state sinusoidal response; Network graphs and their applications in network analysis; Tellegen's theorem. Two port networks; Z, Y, h and transmission parameters. Combination of two ports, analysis of common two ports. Network functions : parts of network functions, obtaining a network function from a given part. Transmission criteria : delay and rise time, Elmore's and other definitions effect of cascading. Elements of network synthesis.

5. **Electromagnetic Theory**
Analysis of electrostatic and magnetostatic fields; Laplace's and Piossons's equations; Boundary value problems and their solutions; Maxwell's equations; application to wave propagation in bounded and unbounded media; Transmission lines : basic theory, standing waves, matching applications, misconstrue lines; Basics of wave guides and resonators; Elements of antenna theory.

6. **Electronic Measurements and instrumentation**
Basic concepts, standards and error analysis; Measurements of basic electrical quantities and parameters; Electronic measuring instruments and their principles of working : analog and digital, comparison, characteristics, application. Transducers; Electronic measurements of non electrical quantities like temperature, pressure, humidity etc; basics of telemetry for industrial use.

PAPER - II

1. **Analog Electronic Circuits**
Transistor biasing and stabilization. Small signal analysis. Power amplifiers. Frequency response. Wide banding techniques. Feedback amplifiers. Tuned amplifiers. Oscillators. Rectifiers and power supplies. Op Amp PLL, other linear integrated circuits and applications. Pulse shaping circuits and waveform generators.

2. **Digital Electronic Circuits**
Transistor as a switching element; Boolean algebra, simplification of Boolean functions, Karnaguh map and applications; IC Logic gates and their characteristics; IC logic families : DTL, TTL, ECL, NMOS, PMOS and CMOS gates and their comparison; Combinational logic Circuits; Half adder, Full adder; Digital comparator; Multiplexer Demultiplexer; ROM and their applications. Flip flops. R-S, J.K, D and T flip-flops; Different types of counters and registers Waveform generators. A/D and D/A converters. Semiconductor memories.

3. **Control Systems**
Transient and steady state response of control systems; Effect of feedback on stability and sensitivity; Root locus techniques; Frequency response analysis. Concepts of gain and phase margins: Constant-M and Constant-N Nichol's Chart; Approximation of transient response from Constant-N Nichol's Chart; Approximation of transient response from closed loop frequency response; Design of Control Systems, Compensators; Industrial controllers.

4. **Communication Systems**
Basic information theory; Modulation and detection in analogue and digital systems; Sampling and data reconstructions; Quantization & coding; Time division and frequency division multiplexing; Equalization; Optical Communication : in free space & fiber optic; Propagation of signals oat HF, VHF, UHF and microwave frequency; Satellite Communication.

5. **Microwave Engineering**
Microwave Tubes and solid state devices, Microwave generation and amplifiers, Waveguides and other Microwave Components and Circuits, Misconstrue circuits, Microwave Antennas, Microwave Measurements, Masers, lasers; Microwave propagation. Microwave Communication Systems terrestrial and Satellite based.

6. **Computer Engineering**
Number Systems. Data representation; Programming; Elements of a high level programming language PASCAL/C; Use of basic data structures; Fundamentals of computer architecture; Processor design; Control unit design; Memory organisation, I/o System Organisation. Microprocessors : Architecture and instruction set of Microprocessors 8085 and 8086, Assembly language Programming. Microprocessor Based system design : typical examples. Personal computers and their typical uses.

Appendix-II

INSTRUCTIONS TO THE CANDIDATES FOR FILLING ONLINE APPLICATIONS

Candidates are required to apply Online using the Website **www.upsconline.nic.in**

Salient Features of the system of Online Application Form are given hereunder :

Detailed instructions for filling up Online applications are available on the above mentioned website.

Candidates will be required to complete the Online application form containing two stages viz. Part-I and Part-II as per the instructions available in the above mentioned site through drop down menus.

The candidates are required to pay a fee of Rs. 100/- (Rupees One Hundred Only) [excepting SC/ST/Female/PH candidates who are exempted from payment of fee] either by remitting the money in any branch of SBI by cash, or by using net banking facility of State Bank of India/State Bank of Bikaner & Jaipur/State Bank of Hyderabad/ State Bank of Mysore/State Bank of Patiala/State Bank of Travancore or by using any Visa/Master Credit/Debit Card.

Before start filling up Online Application, a candidate must have his photograph and signature duly scanned in the **.jpg** format in such a manner that each file should not exceed 40 KB each and must not be less than 3 KB in size for the photograph and 1 KB for the signature.

Applicants should avoid submitting multiple applications. However, if due to any unavoidable circumstances any applicant submits multiple applications then he must ensure that the applications with higher RID is complete in all respects.

In case of multiple applications, the applications with higher RID shall be entertained by the Commission and fee paid against one RID shall not be adjusted against any other RID.

The Online applications(Part I and II) can be filled from **10th March, 2012 to 9th April, 2012 till 11.59 p.m.,** after which link will be disabled.

The applicants must ensure that while filling their application form, they are providing their valid and active e-mail Ids as the Commission may use electronic mode of communication while contacting them.

The applicant must apply for the examination well in advance without waiting for the last date.

Continued

Appendix-III

(PART-A)

Special Instructions to Candidates for Conventional type papers

1. **Articles permitted inside Examination Hall**
Battery-operated pocket calculators of "non-programmable" type only, mathematical/engineering/drawing instruments, including a flat rule divided on the edges into inches and tens of an inch and into centimeters and millimeters, a slide rule, set squares, a protractor and a pair of compasses, pencils, coloured pencils, mapping pens, eraser, T-square and drawing board for use wherever necessary. Candidates are not allowed to bring with them any "Tables or Charts" for use in the Examination Hall.
2. **Tables to be supplied by UPSC**
If it is considered necessary for answering the questions set in any paper, the Commission may supply any of the following for reference purpose only :
(i) Mathematical/Physical/Chemical and Engineering Tables (including Logarithmic Tables)
(ii) Steam Table (including Mollier Diagrams for Temperature up to 800°C and Pressure up to 500 Kgf/Cm);
(iii) National Building Code of India 1970 or 1983 Group 2 Part VI;
(iv) Any other special articles as may be necessary for the candidates to answer the questions set in the question paper.
After conclusion of the examination, return the above items to the Invigilator.
3. **Answers to be written in own hand**
Write the answers in your own hand in ink, Pencil may be used for maps, mathematical drawings or rough work.
4. **Check Answer Book**
The candidate must write his roll number (and not his name) only in the space provided for the purpose on every answer book used by him. Before writing in the answer book, please see that it is complete. In case there are any missing pages, it should be got replaced.
Do not tear out any pages from the Answer Book. If you use more than one Answer Book, indicate on the cover of first Answer Book the total number of Answer Books used. Do not leave any blank, unused spaces between answers. If such spaces are left, score them out.
5. **Answers in excess of prescribed number will be ignored**
The candidate must attempt questions strictly in accordance with the directions given on each question paper. If questions are attempted in excess of the prescribed number, only the questions attempted first up to the prescribed number shall be valued and the remaining answers will be ignored.
6. Questions relating to graph/precis should be attempted only on graph/precis sheets to be supplied on demand by the Invigilators. All loose sheets such as precis sheet, drawing papers, graph sheets etc. whether used or not, should be placed inside the answer books and fastened along with the additional answer book(s), if any. Candidates who fail to observe this instruction will be penalized. Do not write your roll number on these sheets.
7. **Unfair means strictly prohibited**
Do not copy from the papers of any other candidate nor allow your papers to be copied nor give nor attempt to give nor obtain nor attempt to obtain irregular assistance of any description. It will be the responsibility of every candidate to ensure that his answers are not copied by another candidate. Failure to do so will invite penalty, as may be awarded by the Commission for adoption of unfair means.
8. **Conduct in Examination Hall**
Do not misbehave in any manner or create disorderly scene in the examination hall or harass or bodily harm the staff deployed for the conduct of examination. You will be severely penalized if you attempt to do so.
9. Please read carefully and abide by the instructions printed on the Question Paper and on the Answer Book supplied in the Examination Hall.
10. The candidates are not allowed to leave the Examination Hall before the expiry of prescribed time period of the examination.

(PART-B)

Special Instructions to Candidates for objective type tests

1. **Articles permitted inside Examination Hall**
Clip board or hard board (on which nothing is written), a good quality black/blue ball pen for making responses on the Answer Sheet. Answer Sheet and sheet for rough work will be supplied by the Invigilator.
2. **Articles not permitted inside Examination Hall**
Do not bring into the Examination Hall any article other than those specified above, e.g., books, notes, loose sheets, electronic or any other type of calculators, mathematical and drawing instruments, Log Tables, stencils of maps, slide rules, Test Booklets, rough sheets pertaining to earlier session(s), etc.
Mobile phones, pagers or any other communication devices are not allowed inside the premises where the examination is being conducted. Any infringement of these instructions shall entail disciplinary action including ban from future examinations.
Candiates are advised in their own interest not to bring any of the banned items including mobile phones, pagers to the vanue of the examination, as arrangements for safekeeping cannot be assured.
3. **Penalty for wrong Answers (in Objective Type Papers)**
THERE WILL BE PENALTY (NEGATIVE MARKING) FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBJECTIVE TYPE QUESTION PAPERS.
(i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, one third (0.33) of the marks assigned to that question will be deducted as penalty.
(ii) If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above for that question.
(iii) If a question is left blank i.e. no answer is given by the candidate, there will be no penalty for that question.
4. **Unfair means strictly prohibited**
No candidates shall copy from the papers of any other candidate nor permit his papers to be copied nor give nor attempt to give not obtain nor attempt to obtain irregular assistance of any description.
5. **Conduct in Examination Hall**
No candidates should misbehave in any manner or create disorderly scene in the Examination Hall or harass the staff employed by the Commission for the conduct of the examination. Any such misconduct will be severely penalised.
6. **Answer Sheet particulars**
(i) Write in black/blue ball pen your Centre and subject followed by Test Booklet series (in bracket), subject code and roll number at the appropriate space provided on the Answer Sheet at the top. Also encode your booklet series (A, B, C or D, as the case may be), subject code and roll number with black/blue ball pen in the circles provided for the purpose in the Answer Sheet. The guidelines for writing the above particulars and for encoding the above particulars are given in Annexure. In case the booklet series is not printed on the Test Booklet or Answer Sheet is unnumbered, please report immediately to the Invigilator and get the Test Booklet/Answer Sheet replaced.
(ii) All corrections and changes in writing the roll number must be initialed by the candidates as well as by the Invigilator and countersigned by the Supervisor.
(iii) Immediately after commencement of the examination please check that the Test Booklet supplied to you does not have any unprinted or torn or missing pages or items etc. If so, get it replaced by a complete Test Booklet of the same series and subject.
7. Do not write your name or anything other than the specific items of information asked for, on the Answer Sheet/Test Booklet/sheet for rough work.
8. Do not fold or mutilate or damage or put any extraneous marking in the Answer Sheet. Do not write anything on the reverse of the Answer Sheet.
9. Since the Answer Sheets will be evaluated on computerised machines, candidates should exercise due care in handling and filling up the Answer Sheets. **They should use black/blue ball pen only to darken the circles. For writing in boxes, they should use blue or black ball pen. Since the entries made by the candidates by darkening the circles will be taken into account while evaluating the Answer Sheets on computerised machines, they should make these entries very carefully and accurately.**
The candidate must mark responses in the Answer Sheet with good quality black/blue ball pen.
10. **Method of marking answers**
In the "OBJECTIVE TYPE" of examination, you do not write the answers. For each question (hereinafter referred to as "Item") several suggested answers (hereinafter referred to as "Responses") are given. You have to choose one response to each item.
The question paper will be in the Form of TEST BOOKLET. The booklet will contain item bearing numbers 1, 2, 3 ..... etc. Under each item, Responses marked (a), (b), (c), (d) will be given. Your task will be to choose the correct response. If you think there is more than one correct response, then choose what you consider the best response.
In any case, for each item you are to select only one response. If you select more than one response, your response will be considered wrong.
In the Answer Sheet, Serial Nos. from 1 to 160 are printed. Against each numbers, there are circles marked (a), (b), (c) and (d). After you have read each item in the Test Booklet and decided which one of the given responses is correct or the best, **you have to mark your response by completely blackening to indicate your response. Ink pen or pencil should not be used for blackening the circle on the Answer Sheet.**
For example, if the correct answer to item 1 is (b), then the circle containing the letter (b) is to be completely blackened with black/blue ball pen as shown below :-
Example : ⓐ ● ⓒ ⓓ
11. **Signature on Attendance List**
You are required to write the serial number of the Answer Sheet and Test Booklet and Series of Test Booklet issued to you on the Attendance List and to sign in appropriate column against your name. Any change or correction in these particulars should be authenticated by the candidate by putting his signatures.
12. Please read and abide by the instructions on the cover of Test Booklet. If any candidate indulges in disorderly or improper conduct, he will render himself liable for disciplinary action and/or imposition of a penalty as the Commission may deem fit.
13. The candidates are not allowed to leave the Examination Hall before the expiry of prescribed time period of the examination.

Annexure

How to fill in the Answer Sheet of objective type tests in the Examination Hall

Please follow these instructions very carefully. You may note that since the Answer Sheets are to be evaluated on machine, any violation of these instructions may result in reduction of your score for which you would yourself be responsible.

Before you mark your responoses on the Answer Sheet, you will have to fill in various particulars in it.

As soon as the candidate receives the Answer Sheet, he/she should check that it is numbered at the bottom. If it is found unnumbered he/she should at once get it replaced by a numbered one.

You will see from the Answer Sheet that you will have to fill in the top line, which reads thus :

केन्द्र Centre	विषय Subject	विषय कोड S. Code		अनुक्रमांक Roll Number						

If you are, say, appearing for the examination in Delhi Centre for the General Studies Paper and your Roll No. is 081276 and your Test Booklet series is `A', you should fill in thus, using ball pen.

*This is just illustrative and may not be relevant to the Examination concerned.

केन्द्र Centre	विषय Subject	विषय कोड S. Code		अनुक्रमांक Roll Number						
Delhi	General Studies (A)		9	9	0	8	1	2	7	6

You should write with black/blue ball pen the name of the centre and subject in English or Hindi.

The test Booklet Series is incidated by Alphabets A, B, C, or D at the top right hand corner of the Booklet.

Write your Roll Numbers exactly as it is in your Admission Certificate in the boxes provided for this purpose. Do not omit any zero(s) which may be there.

The next step is to find out the approriate subject code from the Time Table. Now encode the Test Booklet Series, Subject Code and the Roll Number in the circles provided for this purpose. Do the encoding with black/blue ball pen. The name of the Centre need not be encoded.

Writing and encoding of Test Booklet Series is to be done after receiving the Test Booklet and confirming the Booklet Series from the same.

For General Ability subject paper of `A' Test Booklet Series you have to encode the subject code, which is 99. Do it thus.

पुस्तिका क्रम Booklet Series (A)	विषय Subject	9	9
		①	①
		②	②
		③	③
		④	④
		⑤	⑤
		⑥	⑥
		⑦	⑦
		⑧	⑧
		●	●

All that is required is to blacken completely the circle marked `A' below the Booklet Series and below the subject code blacken completely the Circles for "9" (in the first vertical column) and "9" (in the second verticle column). You should then encode the Roll No. 081276. Do it thus similarly :

अनुक्रमांक Roll Numbers

0	8	1	2	7	6
●	⑨	⑨	⑨	⑨	⑨
①	①	●	①	①	①
②	②	②	●	②	②
③	③	③	③	●	③
④	④	④	④	④	④
⑤	⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥	●
⑦	⑦	⑦	⑦	●	⑦
⑧	●	⑧	⑧	⑥	⑧
⑨	⑨	⑨	⑨	⑨	⑨

Important : Please ensure that you have carefully encoded your subject, Test Booklet series and Roll Number.

*This is just illustrative and may not be relevant to your Examination.

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