1. Conditions for grant of study leave. —(1) Study leave may be granted to a railway servant with due regard to the exigencies of public service to enable him to undergo, in or out of India a special course of study consisting of higher studies or a technical subject having a direct and close connection with the sphere of his duty.

2. Study leave may also be granted—

   (i) for a course of training or study tour in which a railway servant may not attend a regular academic or semi-academic course if the course of training or the study tour is certified to be of definite advantage to Government from the point of view of public interest and is related to sphere of duties of the railway servant; and

   (ii) for the purposes of studies connected with the framework or background of public administration subject to the conditions that—

         (a) the particular study tour should be approved by the authority competent to grant leave;

         (b) the railway servant should be required to submit on his return, a full report on the work done by him while on, study leave.

(i) for the studies which may not be closely or directly connected with the work of a railway servant, but which are capable of widening his mind in a manner likely to improve his abilities as a civil servant and to equip him better to collaborate with those employed in other branches of the public service.

3. Study leave shall not be granted unless:--

   (i) it is certified by the authority competent to grant leave the proposed course of study or training shall be of definite advantage from the point of view of public interest;

   (ii) it is for prosecution of studies other than academic, or literary subjects;

Provided that a Medical Officer may be granted study leave for prosecuting a course of post graduate study in Medical Sciences in India if the
Head of the Medical Deptt. Certifies to the effect that such study shall be valuable in increasing the efficiency of such medical officer in the performance of his duties. For post-graduate study in medical sciences abroad, study leave shall be granted if the Director General of Railway Health Services in the Ministry of Railways certifies that such study shall be valuable in increasing the efficiency of such medical officer in the performance of his duties:

Provided also that a specialist or a technical person may be granted study leave, on merits of each case, for prosecuting a post graduate course of study directly related to the sphere of his duty in case the Head of the Department or the Railway Ministry certifies that the course of study shall enable the specialist or the technical person, as the case may be, to keep abreast with modern development in the field of his duty, improve his technical standards and competence and thus substantially benefit the Railways.

(iii) the Department of Economic Affairs of the Ministry of Finance agrees to the release of foreign exchange involved in the grant of study leave, if such leave is outside India:

Provided that in releasing foreign exchange to Railway servants proceeding on study leave abroad, the Department aforesaid shall satisfy itself whether such Railway servant comply with the minimum educational criteria as specified in the general orders issued by the said Department from time to time regulating release of foreign exchange to persons proceeding abroad for higher studies at their expense.

(4) Study leave out of India shall not be granted for the prosecution of studies in subjects for which adequate facilities exist in India or under any of the Schemes administered by the Department of Economic Affairs of the Ministry of Finance or by the Ministry of Education.

(5) Study leave may be granted to a Railway servant: ---

(i) Who has satisfactorily completed period of probation and has rendered no less than five years regular continuous service including the period of probation under the Government; '(two years in case of Railway Medical Service Officer)'

(ii) Who is not due to reach the age of superannuation from the Government service within "three years (eight years in the case of Railway Medical Service Officer who has been granted thirty-six months' study leave under sub-rule 2 of rule 2) from" the date on which he is expected to return to duty after the expire of leave;

(Authority: Ministry of Railway's letter No. 2011/F(E)-III/2(2)/3 New Delhi, Dated 05-01-12)—acs no.120

(iii) Who executes a bond as laid down in Rule 4(4) of Appendix V to Study leave Rules-RI undertaking to serve the
Government for a period of "three years (eight years in the case of Railway Medical Service Officer who has been granted thirty-six months study leave under sub-rule 2 of rule 2) after" the expiry of the leave. Accordingly, Railway Servant having option to retire will not be permitted to retire unless he serves the Govt. for three years after return from the Study Leave;

(Authority: Ministry of Railway's letter No. 2011/F(E)-III/2(2)/3 New Delhi, Dated 05-01-12)—acs no.120

(6) Study leave shall not be granted to a Railway servant with such frequency as to remove him from contact with his regular work or to cause cadre difficulties owing to his absence on leave.

(7) Study leave shall not be granted to a railway servant who is on deputation to other department or vice versa.

2 Maximum amount of study leave: - (1) The maximum amount of study leave, which may be granted to a Railway servant, other than Railway Medical Service Officers, shall be -

(a) ordinarily twelve months at any one time, and

(b) during his entire service, twenty-four months in all (inclusive of similar kind of leave for study or training granted under any other rules).

(2) In respect of Railway Medical Service Officers, study leave may be granted for thirty-six months for acquiring post graduate qualification, subject to the condition that a Railway Medical Service Officer who has been granted such study leave shall execute a bond under sub-rule (4) of rule 4 to serve the Railways for a period of eight years after completion of the study course.


3. Application for study leave. —(1) (i) Every application for study leave shall be submitted through proper channel to the authority competent to grant leave.

(ii) The course or courses of study contemplated by the Railway servant and any examination which he proposes to undergo shall be clearly specified in such application.

(2) Where it is not possible for the Railway servant to give full details in his application, or if, after leaving India he is to make any change in the programme which has been approved in India, he shall submit the particulars as soon as possible to the Head of the Mission or the authority competent to grant leave, as the case may be, and shall not, unless prepared to do so at his own risk, commence the course of study or incur any expenses in connection therewith until he received the approval of the authority competent to grant the study leave for the course.
4. **Sanction of study leave.**—(1) A report regarding the admissibility of the study leave shall be obtained from the Accounts Officer:

Provided that the study leave, if any, already availed of by the Railway servant shall be included in the report.

(2) Where a Railway servant borne permanently on the cadre of one Railway is serving temporarily in another department or establishment, the grant of study leave to him shall be subject to the condition that the concurrence of the Railway to which he is permanently attached is obtained before leave is granted.

(3) Where the study leave is granted for prosecution of studies abroad, the Head of the Mission concerned shall be informed of the fact by the authority granting leave.

**Note.** —The Head of the Mission shall be contacted by the Railway servant for issue of any letters of introduction or for other similar facilities that may be required.

(4) (a) Every Railway servant in permanent employ who has been granted study leave or extension of such study leave shall be required to execute a bond in Form A or Form B as the case may be, before the study leave or extension of such study leave granted to him commences.

(b) Every Railway servant not in permanent employ who has been granted study leave or extension of such study leave shall be required to execute a bond in Form C or Form D as the case may be, before the study leave or extension of such study leave granted to him commences.

(c) The authority competent to grant leave shall send to the Accounts Officer a certificate to the effect that the Railway Servant referred to in clause (a) or clause (b) has executed the requisite bond.

(5) (a) On completion of the course of study the Railway servant shall submit to the authority which granted him the study leave, certificates of examinations passed a special course of study undertaken, indicating the date of commencement and termination of the course with the works if any, of the authority incharge of the course of study.

(b) If the study is undertaken in a country outside India where there is an Indian Mission, the certificates shall be submitted through the Head of the Mission concerned.

5. **Accounting of study leave and combination with leave of other kinds.** —(1) Study leave shall not be debited against the leave account of the Railway servant.

(2) Study leave may be combined with other kinds of leave, but in no case shall be grant of this leave in combination with leave, other than extraordinary leave, involve a total absence of more than twenty eight months generally and thirty six months for the courses leading to Ph.D degree and P.G. Degree in medicine.

(Authority: Railway Board’s letter No.F(E)III/89/LE I/5 dt. 23-06-98 )
Explanation. —The limit of twenty-eight months/thirty six months of absence prescribed in this sub-rule includes the period of vacation.

(Authority: Railway Board’s letter No.F(E)III/89/LE I/5 dt. 31.07.98 )

(3) A Railway servant granted study leave, in combination with any other kind of leave may, if he so desires, undertake or commence a course of study during any other kind of leave 

Provided that the period of such leave coinciding with the course of study shall not count as study leave.

6. Regulation of study leave extending beyond course to study.—When the course of study falls short of study leave granted to a Railway servant he shall resume duty on the conclusion of the course of study, unless the previous sanction of the authority competent to grant leave has been obtained to the period of shortfall as ordinary leave.

7. Leave salary during study leave. —(1) "During Study Leave availed outside India a Railway servant shall draw leave salary equal to the pay that the Railway servant shall drew while on duty immediately before proceeding on such leave in addition to Dearness Allowance and House Rent allowance as admissible in terms of Board's letter No. E(P&A)II-2002/HRA-2 dated 19.02.2002.'

(2) (a) During study leaves availed in India, a Railway servant shall draw leave salary equal to the pay that the Railway servant drew while on duty immediately before proceeding on such leave in addition to Dearness Allowance and House Rent Allowance as admissible in terms of Board's letter No. E(P&A)II-2002/HRA-2 dated 19.02.2002.

(b) Payment of leave salary at full rate under clause (a) shall be subject to furnishing of a certificate by the Railway servant to the effect that he is not in receipt of any scholarship, stipend or remuneration in respect of any part-time employment.

(c) The amount, if any received by a Railway servant during the period of study leave as scholarship or stipend or remuneration in respect of any part time employment shall be adjusted against the leave salary payable under this sub-rule subject to the condition that the leave salary shall not be reduced to an amount less than that payable as leave salary during half pay leave.

Rules 8, 9 & 10 shall be omitted.

12. Travelling allowance during study leave.—A Railway servant to whom study leave has been granted shall not ordinarily be paid traveling allowance but the President may in exceptional circumstances sanction the payment of such allowance.

13. Cost of fees for study.—A Railway servant to whom study leave has been granted shall ordinarily be required to meet the cost of fees paid for the study but in exceptional cases, the President may sanction grant of such fees. Provided that in no case shall the cost of fees be paid to a Railway servant who is in receipt of scholarship or stipend from whatever source or who is permitted to receive or retain in addition to his leave salary any remuneration in respect of part time employment.

14. Resignation or retirement after study leave. —(1) If a Railway servant resigns or retires from service or otherwise quits service without returning to duty after a period of study leave or within a period of "three years (eight years in the case of Railway Medical Service Officer who has been granted thirty-six months study leave under sub-rule (2) of rule 2) after" such return to duty, he shall be required to refund—

New Delhi, Dated 05-01-12)—acs no.120
(Authority: Ministry of Railway's letter No. 2011/F(E)-III/2(2)/3

(i) the actual amount of leave salary, cost of fees, traveling and other expenses, if any, incurred by the Railways; and
(ii) the actual amount, if any, of the cost incurred by other agencies such as foreign Governments, Foundations and Trusts in connection with the course of study,

together with interest thereon at rates for the time being in force on Government loans, from the date of demand, from his resignation is accepted or permission, to retire is granted or his quitting service otherwise:

Provided that nothing in this rule shall apply:-

(a) to a Railway servant who, after return to duty from study leave, is permitted to retire from service on medical grounds; or
(b) to a Railway servant who, after return to duty from study leave, is deputed to serve in any statutory or autonomous body or institution under the control of the Government and is subsequently permitted to resign from service under the Government with a view to his
permanent absorption in the said statutory or autonomous body or institution in the public interest.

(2) (a) The study leave availed of by such Railway servant shall be converted into regular leave standing at his credit on the date on which the study leave commenced, any regular leave taken in continuation of study leave being suitable adjusted for the purpose and the balance of the period of study leave, if any, which cannot be so converted, treated as extraordinary leave.

(b) In addition to the amount to be refunded by the Railway servant under sub-rule (1), he shall be required to refund any excess of leave salary actually drawn over the leave salary admissible on conversion of the study leave.

(3) Notwithstanding anything contained in this rule, the President may, if it is necessary or expedient to do so, either in public interest or having regard to the peculiary circumstances of the case or class of cases, by order waive or reduce the amount required to be refunded under sub-rule (1) by the Railway servant concerned or class of Government servants.

Note: --The amounts referred in sub-rule (1) of the aforesaid Rule (14) shall also be refundable by a Railway Servant who fails to complete the course of study and is thus unable to furnish the certificate as required in sub-rule (5) of Rule 4.

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"FORM 'A'

[See Rule 4(4)(a)]

BOND TO BE EXECUTED BY A RAILWAY SERVANT IN PERMANENT EMPLOY WHEN PROCEEDING ON STUDY LEAVE

KNOW ALL MEN BY THESE PRESENTS THAT I, ................... resident of ....................... in the District of ................. at present employed as ....................... in the Ministry/office of ....................... do hereby bind myself and my heirs, executors and administrators to pay to the President of India (hereinafter called "the Government") on demand, the sum of Rs....................... (Rupees....................... only) together with interest thereon from the date of demand at Government rates for the time being in force on Government loans or, if payment is made in a country other than India, the equivalent of the said amount in the currency of that country converted at the official rate of exchange between that country and India AND TOGETHER with all costs between attorney and client and all charges and expenses that shall or may have been incurred by the Government.

WHEREAS I, ....................... am granted study leave by Government.

AND WHEREAS for the better protection of the Government I have agreed to execute this Bond with such condition as hereunder is written:

NOW THE CONDITION OF THE ABOVE WRITTEN OBLIGATIONS IS THAT in the event of my failing to resume duty, or resigning or retiring from service or otherwise quitting service without returning to duty after the expiry or termination of the period of study leave or failing to complete the course of study or at any time "within a period of three years/eight years after" my return to duty, I shall forthwith pay to the Government or as may be directed by the Government, on demand the said sum of Rs................. (Rupees................. only) together with interest thereon from the date of demand at Government rates for the time being in force on Government loans.

NOW FURTHER THE CONDITION OF THE ABOVE WRITTEN OBLIGATION IS THAT the period of my bond mandating putting in service for the period as specified above, after expiry of the study leave availed by me shall be extended by a comparable period, equivalent to the aggregate periods of leave of any kind availed by me, during the currency of the bond period.

AND upon my making such payment, the above written obligation shall be void and of no effect, otherwise it shall be and remain in full force and virtue.

The Bond shall in all respects be governed by the laws of India for the time being in force and the rights and liabilities hereunder shall, where necessary, be accordingly determined by the appropriate Courts in India.

Explanation: The term 'currency of bond' means the period during which the liability of the Government servant is activated and the right of the Government is alive to claim the predetermined and stipulated amounts from the Government servant who fails to discharge his obligation.

Signed and dated this ............... day of ............... two thousand and ............... .

Signed and delivered by ............... .
in the presence of

Witnesses (1) ........................................

(2) ........................................

ACCEPTED

for and on behalf of the

President of India."
BOND TO BE EXECUTED BY A RAILWAY SERVANT IN PERMANENT EMPLOY, WHEN GRANTED EXTENSION OF STUDY LEAVE

KNOW ALL MEN BY THESE PRESENTS THAT I, ................................ resident of ........................ in the District of .................. at present employed as .......................... in the Ministry/office of .......................... do hereby bind myself and my heirs, executors and administrators to pay to the President of India (hereinafter called “the Government”) on demand the sum of Rs....................... (Rupees........ only) together with interest thereon from the date of demand, at Government rates for the time being in force on Government loans or, if payment is made in a country other than India, the equivalent of the said amount in the currency of that country converted at the official rate of exchange between that country and India AND TOGETHER with all costs between attorney and client and all charges and expenses that shall or may have been incurred by the Government.

WHEREAS I, ........................... was granted study leave by Government for the period from .......... to .......... in consideration of which I executed a Bond dated ........ for Rs........ (Rupees........ only) in favour of the President of India.

AND WHEREAS the extension of study leave has been granted to me at my request until ... ... ...

AND WHEREAS for the better protection of the Government I have agreed to execute this bond with such condition as hereunder is written:

NOW THE CONDITION OF ABOVE WRITTEN OBLIGATIONS IS THAT in the event of my failing to resume duty, or resigning or retiring from service or otherwise quitting service without returning to duty after the expiry or termination of the period of study leave so extended or failing to complete the course of study or at any time "within a period of three years/eight years after" my return to duty, I shall forthwith pay to the Government or as may be directed by the Government, on demand the said sum of Rs........ (Rupees... ... ... only) together with interest thereon from the date of demand at Government rates for the time being in force on Government loans.

NOW FURTHER THE CONDITION OF THE ABOVE WRITTEN OBLIGATION IS THAT the period of my bond mandating putting in service for the period as specified above, after expiry of the study leave availed by me shall be extended by a comparable period, equivalent to the aggregate periods of leave of any kind availed by me, during the currency of the bond period.

AND upon my making such payment, the above-written obligations shall be void and of no effect, otherwise it shall be and remain in full force and virtue.

The Bond shall in all respects be governed by the laws of India for the time being in force and the rights and liabilities hereunder shall, where necessary, be accordingly determined by the appropriate Courts in India.

Explanation: The term 'currency of bond' means the period during which the liability of the Government servant is activated and the right of the Government is alive to claim the predetermined and stipulated amounts from the Government servant who fails to discharge his obligation.

Signed and dated this ........ day of ................ two thousand and ............

Signed and delivered by ..................................

in the presence of
Witnesses (1)...

(2)...

ACCEPTED

for and on behalf of the

President of India.”
FORM 'C'

[See Rule 4 (4)(b)]

BOND TO BE EXECUTED BY A RAILWAY SERVANT NOT IN PERMANENT EMPLOY, WHEN PROCEEDING ON STUDY LEAVE

KNOW ALL MEN BY THESE PRESENTS THAT WE __________________ residents of ______________ in the District of ______________ at present employed as ______________ in the Ministry/Office of ______________ (hereinafter called "the Obligor") and Shri/Shrimati/Kumari ______________ son/daughter of ______________ of ______________ and Shri/Shrimati/Kumari ______________ son/daughter of ______________ of ______________ (hereinafter called "the Sureties") do hereby jointly and severally bind ourselves and our respective heirs, executors and administrators to pay to the President of India (hereinafter called "the Government") on demand, the sum of Rs.________________ (Rupees __________________ only) together with interest thereon from the date of demand at Government rates for the time being in force on Government loans or, if payment is made in a country other than India, the equivalent of the said amount in the currency of that country converted at the official rate of exchange between that country and India AND TOGETHER with all costs between attorney and client and all charges and expenses that shall or may have been incurred by the Government.

WHEREAS the Obligor is granted study leave by the Government:

AND WHEREAS for the better protection of the Government the Obligor has agreed to execute this Bond with such condition as hereunder is written:

AND WHEREAS the said Sureties have agreed to execute this Bond as Sureties on behalf of the above bounden ______________

NOW THE CONDITIONS OF THE ABOVE WRITTEN OBLIGATIONS IS THAT in the event of the Obligor Shri/Shrimati/Kumari ______________ failing to resume duty, or resigning or retiring from service or otherwise quitting service without returning to duty after the expiry or termination of the period of study leave or failing to complete the course of study or at any time "within a period of three years/eight years after" his return to duty, the Obligor and the Sureties shall forthwith pay to the Government or as may be directed by the Government, on demand the said sum of Rs.________________ (Rupees ______________ only) together with interest thereon from the date of demand at Government rates for the time being in force on Government loans.

NOW FURTHER THE CONDITION OF THE ABOVE WRITTEN OBLIGATION IS THAT the period of my bond mandating putting in service for the period as specified above, after expiry of the study leave availed by me shall be extended by a comparable period, equivalent to the aggregate periods of leave of any kind availed by me, during the currency of the bond period.
AND upon the Obligor Shri/Shrimati/Kumari ………….. and, or Shri/Shrimati/Kumari ………….. and, or Shri/Shrimati/Kumari ………….. the Sureties aforesaid making such payment the above-written obligation shall be void and of no effect, otherwise it shall be and remain in full force and virtue:

PROVIDED ALWAYS that the liability of the Sureties hereunder shall not be impaired or discharged by reason of time being granted or by any forbearance, act or omission of the Government or any person authorised by them (whether with or without the consent or knowledge of the Sureties) nor shall it be necessary, for the Government to sue the Obligor before suing the Sureties Shri/Shrimati/Kumari ………………… and Shri/Shrimati/Kumari ………………… or any of them for amounts due hereunder.

The Bond shall in all respects be governed by the laws of India for the time being in force and the rights and liabilities hereunder shall, where necessary, be accordingly determined by the appropriate Courts in India.

Explanation: The term ‘currency of bond’ means the period during which the liability of the Government servant is activated and the right of the Government is alive to claim the predetermined and stipulated amounts from the Government servant who fails to discharge his obligation.

Signed and dated this………………………… day of………………………… two thousand and ………………….

Signed and delivered by the Obligor
abovename Shri/Shrimati/Kumari …………………..
……………………………………………………………………
in the presence of ………………………
Witnesses :(1)…………………………………………………
(2)……………………………………………………………

Signed and delivered by the Surety
abovename Shri/Shrimati/Kumari …………………..
……………………………………………………………………
in the presence of ………………………
Witnesses : (1)…………………………………………………
(2)……………………………………………………………………
Signed and delivered by the Surety

above named Shri/Shrimati/Kumari .............

..............................................................

in the presence of ............

Witnesses : (1).................. .................. ...

(2).......................... ................... ...

ACCEPTED

for and on behalf of the

President of India."
BOND TO BE EXECUTED BY A RAILWAY SERVANT NOT IN PERMANENT EMPLOY, WHEN GRANTED EXTENSION OF STUDY LEAVE

KNOW ALL MEN BY THESE PRESENTS THAT WE ......................... residents of ................. in the District of ......................... at present employed as ......................... in the Ministry/Office of ......................... (hereinafter called “the Obligor”) and Shri/Shrimati/Kumari ......................... son/daughter of ......................... of ......................... and Shri/Shrimati/Kumari ......................... son/daughter of ......................... of ......................... (hereinafter called “the Sureties”) do hereby jointly and severally bind ourselves and our respective heirs, executors and administrators to pay to the President of India (hereinafter called “the Government”) on demand, the sum of Rs ......................... (Rupees ......................... only) together with interest thereon from the date of demand at Government rates for the time being in force on Government loans or, if payment is made in a country other than India, the equivalent of the said amount in the currency of that country, converted at the official rate of exchange between that country and India AND TOGETHER with all costs between attorney and client and all charges and expenses that shall or may have been incurred by the Government.

WHEREAS the Obligor was granted study leave by the Government for the period from ................. to ................. in consideration of which he executed a Bond dated ................., for Rs ......................... (Rupees ......................... only) in favour of the President of India:

AND WHEREAS the extension of study leave has been granted to the Obligor at his request until .................

AND WHEREAS for the better protection of the Government the Obligor has agreed to execute this Bond with such condition as hereunder is written:

AND WHEREAS the said Sureties have agreed to execute this Bond as Sureties on behalf of the above bounden .........................

NOW THE CONDITION OF THE ABOVE WRITTEN OBLIGATIONS IS THAT in the event the Obligor Shri/Shrimati/Kumari ......................... failing to resume duty, or resigning or retiring from service or otherwise quitting service without returning to duty after the expiry or termination of the period of study leave so extended or failing to complete the course of study or at any time "within a period of three years/eight years after" his return to duty, the Obligor and the Sureties shall forthwith pay to the Government or as may be directed by the Government on demand the said sum of Rs ......................... (Rupees ......................... only) together with interest thereon from the date of demand at Government rates for the time being in force on Government loans.

NOW FURTHER THE CONDITION OF THE ABOVE WRITTEN OBLIGATION IS THAT the period of my bond mandating putting in service for the period as specified above, after expiry of the study leave availed by me shall be extended by a comparable period, equivalent to the aggregate periods of leave of any kind availed by me, during the currency of the bond period.
AND upon the Obligor Shri/Shrimati/Kumari ........... and, or Shri/Shrimati/Kumari ........... and, or Shri/Shrimati/Kumari ................. the Sureties aforesaid making such payment the above written obligation shall be void and of no effect, otherwise it shall be and remain in full force and virtue:

PROVIDED ALWAYS THAT the liabilities of the Sureties hereunder shall not be impaired or discharged by reason of time being granted or by any forbearance, act or omission of the Government or any person authorised by them (whether with or without the consent or knowledge of the Sureties) nor shall it be necessary, for the Government to sue the Obligor before suing the Sureties Shri/Shrimati/Kumari ........ and Shri/Shrimati/Kumari ........... or any of them for amounts due hereunder.

The Bond shall in all respects be governed by the laws of India for the time being in force and the rights and liabilities hereunder shall, where necessary, be accordingly determined by the appropriate Courts in India.

Explanation: The term 'currency of bond' means the period during which the liability of the Government servant is activated and the right of the Government is alive to claim the predetermined and stipulated amounts from the Government servant who fails to discharge his obligation.

Signed and dated this.......... day of.......... two thousand and ............

Signed and delivered by the Obligor

abovenamed Shri/Shrimati/Kumari .................

in the presence of

Witnesses : (1).......... ................................

(2) .......... ..................................

Signed and delivered by the Surety

abovenamed Shri/Shrimati/Kumari .................

in the presence of

Witnesses : (1)........ ......................

(2)........ ..........................
(2)… ………………. ……. ….

ACCEPTED
for and on behalf of the
President of India.”

(Railway Board’s letter NoF(E)III/2008/LE-1/2 & 2011/F(E)-III/2(2)/3 dated 13.4.10, 05.01.12 and 09.04.14) acs no. 112,120 and 121