

**INTEGRATED HEADQUARTERS OF MINISTRY OF DEFENCE (NAVY) /**  
**DIRECTORATE OF INFORMATION TECHNOLOGY**

**REQUEST FOR PROPOSAL**  
**FOR**

**CONDUCTING IT TRAINING FOR NAVAL PERSONNEL**

**Date Issued –06 Jul 15**

**Letters of Proposal and Technical Submittals Due on 12 Aug 15 at 1200 hrs**

To

Directorate Information Technology (DIT)  
Integrated HQ of Min of Def (Navy)  
Room No 126 B, 'C' Wing, SenaBhawan  
New Delhi 1100011

**RFP Reference No: IT/0640/12 dated 06 Jul 15**

Tele :011–23011517  
 Fax :011 - 23010612

**BY REGISTERED POST/BY HAND**

Directorate Information Technology (DIT)  
 Integrated HQ of Min of Defence (Navy)  
 Room No 128 B, 'C'Wing, SenaBhawan  
 New Delhi 110011

**IT/0640/12**

**Jul 2015**

To,

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(Vendor concerned)

**REQUEST FOR PROPOSAL FOR CONDUCTING**  
**IT TRAINING FOR NAVAL PERSONNEL**

1. Bids in sealed cover, in two bid system (separate bids for technical and commercial) are invited for supply of items/services listed in Part II of this RFP. Please super scribe the above mentioned Title, RFP number and date of opening of the Bid on the sealed cover to avoid the Bid being declared invalid.
2. The address and contact numbers for sending Bids or seeking clarifications regarding this RFP are given below: -
  - (a) **Bids/queries to be addressed to:** Principal Director of Information Technology
  - (b) **Postal address for sending the Bids:** Directorate of Information Technology, Room No 129A, 'C' Wing, SenaBhawan, New Delhi – 110011
  - (c) **Name/designation of the contact personnel:** Cdr Vishal Vatsa, JDIT
  - (d) **Telephone numbers of the contact personnel:** 011 –23011517
  - (e) **Fax number:** 011 – 23010612
  - (f) **Email:** [dit-navy@nic.in](mailto:dit-navy@nic.in)
3. This RFP is divided into five Parts as follows:
  - (a) **Part I** – Contains General Information and Instructions for the Bidders about the RFP such as the time, place of submission and opening of tenders, Validity period of tenders, etc.
  - (b) **Part II** – Contains essential details of the items/services required, such as the Schedule of Requirements (SOR), Technical Specifications, Delivery Period, Mode of Delivery and Consignee details.

- (c) **Part III** – Contains Standard Conditions of RFP, which will form part of the Contract with the successful Bidder.
- (d) **Part IV** – Contains Special Conditions applicable to this RFP and which will also form part of the contract with the successful Bidder.
- (e) **Part V** – Contains Evaluation Criteria and Format for Price Bids.

4. This RFP is being issued with no financial commitment and the Buyer reserves the right to change or vary any part thereof at any stage. Buyer also reserves the right to withdraw the RFP, should it become necessary at any stage.

5. The document consist of following appendices:-

- (a) Appendix A- Syllabus for **Network Administration (NA)**
- (b) Appendix B- Syllabus for **Network Security (NS)**
- (c) Appendix C- Syllabus for **Windows 2012 Advanced Server**
- (d) Appendix D- Syllabus for **Fundamentals of Database Management**
- (e) Appendix E - Syllabus for **Course in MS Project 2013**
- (f) Appendix F- Syllabus for **Hardware Training**
- (g) Appendix G - Syllabus for **IT Professional Course**
- (h) Appendix H - Syllabus for **Cyber Security and Ethical Hacking**
- (j) Appendix J - Syllabus for **Oracle 11g Database Development and Administration**
- (k) Appendix K - **Syllabus for SQL Server 2012 Database Development and Administration**
- (l) Appendix L - Syllabus for **Linux Administration and Security**
- (m) Appendix M Syllabus for **ASP>Net 4.0 with C#**
- (n) Appendix N - Syllabus for **Web Designing Adobe Photoshop**
- (p) Appendix P - Syllabus for **Microsoft Exchange 2010**
- (q) Appendix Q - Syllabus for **MS SharePoint 2013**
- (r) Appendix R - Syllabus for **Web Development**
- (s) Appendix S - Number of Personnel to be trained

- (t) Appendix T - Format for Technical Bid
- (u) Appendix U - Format for Commercial Bid
- (v) Appendix V - Vendor Evaluation Compliance Matrix
- (w) Appendix W - Technical Evaluation Matrix
- (x) Appendix X - Format for details of trained personnel

(Vishal Vatsa)  
Commander  
JDIT

## **Part I – General information**

1. Growth of IT infrastructure and IT trained manpower is a continuous process. With the spread of networks throughout the Navy, development of software packages and implementation of information security products, there exists a need to train Naval personnel on various aspects of information technology. The various courses in which the training would be imparted are given in para 03, Part II of RFP.
2. The courses have been chosen keeping in mind widely used technology including IT tools and platforms. The courses would provide a wide scope and an insight to both software and hardware fields. The syllabus for these courses, requirements of the Navy, details of places where the training is required to be conducted, etc are elaborated at Part II. The vendor is required to study the proposed syllabi and the other requirements before submitting the bids.
3. **Last date and time for depositing the Bids** : **12 Aug 15 at 1200hrs.** The sealed bids (both Technical and Commercial) should be deposited/reach this Directorate by the due date and time. The responsibility to ensure this lies with the Bidder.
4. **Manner of Depositing the Bids**: Sealed Bids should be either dropped in the Tender Box marked as '**DIT Tender Box**' or sent by registered post at the address given above so as to reach by the due date and time. Tenders submitted as received late than the last Date & Time will not be considered. No responsibility will be taken for postal delay or non-delivery/non-receipt of Bid documents. Bids sent by FAX or e-mail will not be considered (unless they have been specifically called for by these modes due to urgency).
5. **Time and date for opening of Bids**: **12 Aug 15 at 1500hrs.** (If due to any exigency, the due date for opening of the Bids is declared a closed holiday, the Bids will be opened on the next working day at the same time or on any other day/time, as intimated by the Buyer).
6. **Location of the Tender Box**: Reception of SenaBhawan, Gate No.1, Opp DRDO Bhawan, New Delhi. Only those Bids that are found in the tender box will be opened. Bids dropped in the wrong Tender Box will be rendered invalid.
7. **Place of opening of the Bids**: **Directorate of Information Technology, Room No. 128, 'C' Wing, Sena Bhawan, New Delhi – 110011.** The Bidders may depute their representatives to attend the opening of Bids on the due date and time. Rates and important commercial/technical clauses quoted by all Bidders will be read out in the presence of the representatives of all the Bidders. This event will not be postponed due to non-presence of your representative.
8. **Two-Bid system**: Being a case of two-bid system, only the Technical Bid would be opened on the time and date mentioned above. Date of opening of the Commercial Bids will be intimated subsequently, after acceptance/evaluation of the Technical Bids. Commercial Bids of only those firms will be opened on the

subsequent date, whose Technical Bids are found compliant/suitable after Technical evaluation is done by the Buyer.

9. **Modification and Withdrawal of Bids:** A bidder may modify or withdraw his bid after submission provided that the written notice of modification or withdrawal is received by the Buyer prior to deadline prescribed for submission of bids. A withdrawal notice may be sent by fax but it should be followed by a signed confirmation copy to be sent by post and such signed confirmation should reach the purchaser not later than the deadline for submission of bids. No bid shall be modified after the deadline for submission of bids. No bid may be withdrawn in the interval between the deadline for submission of bids and expiration of the period of bid validity specified. Withdrawal of a bid during this period will result in Bidder's forfeiture of bid security.

10. **Forwarding of Bids:** Bids should be forwarded by Bidders under their original memo / letter pad inter alia furnishing details like TIN number, VAT/CST number, Bank address with NEFT Account if applicable, etc and complete postaltele Numbers of contact persons & e-mail address of their office. Also only the original document of the tender with seal will be used for submission of bids, in case vendors submit in any other format the bids will be rejected.

11. **Cost of Bids:** Tender sets in respect of Open Tender Enquiry (OTE) will be sold on payment of Rs. 500.00(Rupees Five Hunderd Only). Demand Draft to be made for the same amount payable to PCDA (N), Mumbai. If any bidder downloads the tender document from the website, then the bidder must submit cost of tender document by demand draft along with submission of bid.

12. **Clarification regarding contents of the RFP:** A prospective bidder who requires clarification regarding the contents of the bidding documents shall notify to the Buyer in writing about the clarifications sought **03 days** prior to the date of pre-Bid meeting (if held) or **10 (ten) days** prior to the date of submission of bids. **Pre-bid meeting if required will be held at IHQ MoD (N) on 24 Jul 15 at 1500hrs** prior to bid submission. Copies of the query and clarification by the buyer will be sent to all prospective bidders who have received the bidding documents from this office. Any clarification requested later than the time stipulated **will not be considered.**

13. **Modification and Withdrawal of Bids:** A bidder may modify or withdraw his bid after submission provided that the written notice of modification or withdrawal is received by the Buyer prior to deadline prescribed for submission of bids. A withdrawal notice may be sent by fax but it should be followed by a signed confirmation copy to be sent by post and such signed confirmation should reach the purchaser not later than the deadline for submission of bids. No bid shall be modified after the deadline for submission of bids. No bid maybe withdrawn in the interval between the deadline for submission of bids and expiration of the period of bid

validity specified. Withdrawal of a bid during this period will result in Bidder's forfeiture of bid security.

14. **Clarification regarding contents of the Bids:** During evaluation and comparison of bids, the Buyer may, at its discretion, ask the bidder for clarification of his bid. The request for clarification will be given in writing and no change in prices or substance of the bid will be sought, offered or permitted. No post-bid clarification on the initiative of the bidder will be entertained.

15. **Rejection of Bids:** Canvassing by the Bidder in any form, unsolicited letter and post-tender correction may invoke summary rejection with forfeiture of EMD. Conditional tenders will be rejected.

16. **Unwillingness to quote:** In case of LTE, bidders unwilling to quote should ensure that intimation to this effect reaches before the due date and time of opening of the Bid, failing which the defaulting Bidder may be delisted for the given range of items as mentioned in this RFP.

17. **Validity of Bids:** The Bids should remain valid for **a minimum of 180 days** from the last date of submission of the Bids.

18. **Earnest Money Deposit:** Bidders are required to submit Earnest Money Deposit (EMD) for amount of **Rs. 509617/- (Rupees Five Lakh Nine Thousand Six Hundred and Seventeen Only)** along with their bids. In case EMD is not found attached with the Technical Bid, the bids are liable for rejection. The EMD may be submitted in the form of an Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the public sector banks or a private sector bank authorized to conduct government business as per Form DPM-13 (Available in MoD website). EMD is to remain valid for a period of **Sixty days** beyond the final bid validity period. EMD of the unsuccessful bidders will be returned to them at the earliest after expiry of the final bid validity and latest on or before the 30th day after the award of the contract. The Bid Security of the successful bidder would be returned, without any interest whatsoever, after the receipt of Performance bank Guarantee from them as called for in the contract. **EMD is not required to be submitted by those Bidders who are registered with the Central Purchase Organization (e.g. DGS&D), National Small Industries Corporation (NSIC) or any Department of MoD or MoD itself.** A latest certificate of these organisations will be submitted along with the Technical Bids as proof towards waiver of EMD submission. The EMD will be forfeited if the bidder withdraws or amends, impairs or derogates from the tender in any respect within the validity period of their tender.

## **Part II – Technical Specifications**

1. The scope of IT training for the Navy is elaborated in the succeeding paragraphs. The firm must comply with all the requirements contained in this part (i.e Part II).
2. **Scope of Supply.** This would broadly encompass the following:-
  - (a) Imparting IT training to the Indian Navy personnel for the courses selected by the Navy and at the agreed locations.
  - (b) Tailoring the courses to meet Navy's requirements.
  - (c) Supply of all documentation and other deliverables as mentioned at Para 9.
  - (d) Provisioning of complete database on details of the personnel trained.
  - (e) Provisioning of IT infrastructure e.g computers (desktop/laptop) for each trainee, software CDs for installation of any software, connecting cables, switches, routers, projectors, projector screen, white boards, markers, duster and other necessary gadgets required for undertaking training at all locations of training will be the responsibility of the firm. Navy may provide the class room and associated furniture, in case of availability and provided the same is officially requested by the firm.
3. The firm should be capable of providing IT training in the under mentioned areas:-
  - (a) Course on Network Administration, syllabus placed at **Appendix A.**
  - (b) Course on Network Security, syllabus placed at **Appendix B.**
  - (c) Course on Windows 2012 advanced Server Administration and Security, syllabus placed at **Appendix C.**
  - (d) Course on Fundamentals of Database Management, syllabus placed at **Appendix D.**
  - (e) Course on MS Project 2013, syllabus placed at **Appendix E.**
  - (f) Course on Hardware Training, syllabus placed at **Appendix F.**
  - (g) IT Professional Course, syllabus placed at **Appendix G.**
  - (h) Course on Cyber Security & Ethical Hacking, syllabus placed at **Appendix H.**
  - (j) Course on Oracle 11g Database Development & Administration,



syllabus placed at **Appendix J**.

(k) Course on SQL Server 2012 Database Development & Administration, syllabus placed at **Appendix K**.

(l) Course on Linux Administration and Security, syllabus placed at **Appendix L**.

(m) Course on ASP>Net 4.0 with C#, syllabus placed at **Appendix M**.

(n) Course on Web Designing Adobe Photoshop, syllabus placed at **Appendix N**.

(p) Course on Microsoft Exchange 2010, syllabus placed at **Appendix P**.

(q) Course on MS Share Point 2013, syllabus placed at **Appendix Q**.

(r) Course on Web Development, syllabus placed at **Appendix R**.

4. The courses selected by the Navy would be conducted at the following locations:-

- (a) New Delhi
- (b) Mumbai
- (c) Kochi
- (d) Visakhapatnam
- (e) Goa
- (f) Lonavala
- (g) Jamnagar
- (h) Port Blair

5. The details of personnel to be trained for the courses stated at para 3 above at the locations mentioned at para 4 above are provided at **Appendix 'S'**.

6. The schedule of holding courses at each location would be finalised post placement of order.

7. The training would be conducted six days in a week (Mon – Sat) from 0900 to 1730 Hrs. There would be lunch break for one hour in between.

8. **The vendor shall be the Prime Contractor for the above mentioned functions. Consortium approach will not be accepted. The trainers/ instructors deputed for undertaking training must on the payroll the firm for atleast past**

**two years. No hiring of trainers/instructors at any locations during the contract would be accepted. The certification and experience of trainers/instructors is to be in accordance with Para 18 below.**

### **Documentation & Deliverables**

9. The vendor would be responsible to provide the following documents and deliverables as part of the contract which are to be forwarded to respective Command IT officers atleast prior commencement of each course, as directed by IHQ MoD (N)/DIT.

<b>SNo</b>	<b>Items</b>	<b>Number required</b>
(a)	Training Schedule (as approved by the Navy)	08 Copies (Hard) + One Copy (Soft)
(b)	Training material for the various courses to be conducted. This also includes a book on the Software taught and handouts by the firm.	One per trainee. + 10 copies of each course for IT officer at each location and two copies for DIT + one copy of Trg Material each on DVD/CD to DIT/IHQ MoD
(c)	Any software tool being utilised for various aspects of training (viz. Security tools, CBT Package).	08 Sets for all locations.
(d)	Certificates to trainees for the training imparted. Certificates are to be forwarded to IHQ MoD(N)/DIT for signature within one week of completion of the training. Thereafter, the certificates are to be forwarded to respective location.	As per the number of trainees.
(e)	Mark list of trainees for each course. Marklist is to be forwarded to IHQ MoD(N)/DIT and respective CITO/ SO(IT) within one week of completion of the training.	Two copies for each course undertaken. (One for IHQ MoD(N)/DIT and second for respective location).
(f)	Feedbacks from Trainees (Hard copies to be scanned and saved as PDF document)	One soft copy in CD per location, quarterly.
(g)	Course wise Objective type questionnaire for conduct of Entry Behaviour Test (EBT) with solutions	02 sets for each course and for all 08 locations – soft copies

10. Interact with IHQ MoD (Navy) / DIT, Command IT Officers and IT Officers of the Unit (User Organization requiring training) for coordinating conduct of IT courses.

11. The vendor should modify the syllabus for the courses indicated at para 03 above, to accommodate any changes in technology / new technology in consultation with IHQ MoD(N)/DIT atleast 20 days prior to conduct of the course.

12. Conduct the course(s) as per schedule agreed mutually.

13. Forward the session-wise / day wise break-up of the theory and practical sessions for each type of course to the nominated Rep/Coordinator of the Navy at the location of training as directed by IHQ MoD(N)/DIT at least two weeks prior to commencement of training. The training should be mix of hands on practical and theory, with higher weightage to practicals.

14. The vendor should provide a database application to manage the details of trained personnel for easy retrieval on information on trainee's details, the courses conducted and their payment clearances. The data on personnel trained should include the summary of grades obtained by each candidate. The vendor would provide an update of database offline in hard and soft copy as the courses are conducted. The format for submission of details of trained personnel is placed at **Appendix 'X'**. The details of trained personnel are to be forwarded to IHQ MoD(N)/DIT and respective Commands IT Officers within 07 days of completion of training.

15. The training material (books, CDs, Handouts etc) are to be submitted to IHQ MoD(N)/DIT for acceptance atleast one month before the commencement of training. Any changes/ requirements by Navy on the training material must be adhered by the firm. The accepted training material must be delivered at the respective training location atleast two working days in advance from date of commencement of the course.

16. The vendor will provide all facilities for training at all locations stated at para 4 above and for all courses stated at para 3 above. The details of facilities to be provided to trainees for each type of course need to be stated in technical bid. This must include the following:-

(a) Each trainee must be provided with a PC/Laptop for the entire duration of the course. Spare PCs are to be kept ready to avoid any disruption of the training.

(b) Provisioning of Core2 and above PCs/ Laptops with minimum configuration as 1 GB RAM, 80 GB HDD for training in the classrooms.

(c) Latest Nortel/Cisco switches (12/24 ports) and Cisco routers – minimum 04 switches and 04 routers are to be used for imparting instructions for Hardware and Networking Courses.

(d) Provision of Projector system, White board, marker pens, duster etc for

conduct of training.

(e) Method of 'Hands on training' e.g assignments and mini projects, are to be used for conduct of instructions.

(f) Vendor has to mention separately if any CBT package/simulator would be used as an additional training aid.

(j) Deliverables as mentioned at para 9 above.

17. The vendor would have to depute experienced trainers for conducting the training at various locations. The experience of the trainer in a particular course for which he/she would be deputed must be as mentioned at para 18 below.

18. The qualification and experience of the instructors selected for training Naval personnel would be as follows:-

<b>SNo</b>	<b>Courses</b>	<b>Qualification</b>
(a)	NA	Cisco Certified Network Administrator with atleast 03 years of teaching experience
(b)	NS	Cisco Certified Network Professional with atleast 03 years of teaching experience
(c)	Win Server 2012 Administration	Microsoft Certified Professional in Windows Server 2012 Administration or equivalent with atleast 02 years of teaching experience
(d)	Fundamentals of DBMS	Microsoft Certified Professional in MS SQL Server 2012 and Oracle DBA Qualified or equivalent with atleast 02 years of teaching experience
(e)	MS Project 2013	Microsoft Certified Professional in MS Project 2013 and having atleast 02 year experience of teaching MS Project 2013
(f)	Hardware Training	Certified professional in conduct of training on Hardware Training and having atleast 02 years of teaching experience.
(g)	IT Professional Course	Certified professional in conduct of IT Professional course and having atleast 02 years of teaching experience.
(h)	Cyber Security & Ethical Hacking	Certified professional in conduct of training on cyber security & Ethical Hacking by any reputed firm.
(j)	Oracle Database Development & Administration 11g	Microsoft Certified Professional in Oracle DBA Qualified or equivalent with atleast 02 years of teaching experience

(k)	SQL Server 2012 Database Development & Administration	Microsoft Certified Professional in MS SQL Server 2012 Qualified or equivalent with atleast 02 years of teaching experience
(l)	Linux Administration and Security	Certified Red Hat Professional or equivalent with atleast 02 years of teaching experience
(m)	ASP> Net 4.0 with C#	Certified Professional in C, C++ or equivalent with atleast 02 years teaching experience.
(n)	Web Designing Adobe Photoshop	Certified course in Web Designing and Adobe Photoshop with at least 02 years of experience
(p)	Microsoft Exchange 2010	Microsoft Certified Professional in MS Exchange 2010 and having atleast 02 year experience of teaching MS Exvhange 2010
(q)	MS Share Point 2013	Microsoft Certified Professional in MS Share Point 2013 and having atleast 02 year experience of teaching MS Share Point 2013
(r)	Web Development	Certified professional in web development with at least 02 years of experience

19. Syllabus of all courses is placed at Appendix 'A' to 'R'. Further, in respect of NA & NS, the vendor is to ensure that the trainees are capable of undertaking the online examination conducted by CISCO in future, if required, for certification as Cisco Certified Network Administrator.

20. Any changes/ amend required to be made in the syllabus for adding topics etc is to be intimated atleast 02 weeks in advance to IHQ MoD(N)/DIT. Vendor is to ensure

21. An examination must be conducted for assessment of the trainees at the end of each course. The vendor must ensure that the standadrard of training is kept high and this is assimilated by the trainers in a manner, so as to ensure a score of 80% or above by atleast 75% trainees.

22. Refer **Appendix 'S'** , two batches of Cyber Security & Ethical Hacking is scheduled to be conducted at all locations except Port Blair (wherein only batch will be conducted). Vendor would liaise with coordinating officer at locations mentioned at Para 04 above for conduct of training, as directed by IHQ MoD(N)/DIT.

23. The vendor would provide questionnaire for conduct of entrance examination (EE) atleast four weeks in advance at all eight locations in soft copy. Two sets of questionnaire are to be submitted for each course. Vendor is required to conduct the exam, evaluate the answers and prepare merit list, so as to enable the concerned authorities to nominate personnel to attend the course.

24. If a course is required to be rescheduled, the vendor would give a prior notice of minimum four weeks and take prior approval from IHQ MoD (N)/ DIT or Command

IT Officers or representative nominated by DIT before rescheduling the course.

25. The vendor will have to forward attendance sheet, pre-receipted bill, the result sheet (Hard and soft update) and feedback from the participants, quarterly so that the payment through CDA (Navy), Mumbai could be processed.

26. Dispatch certificates, marklist and feedback Performa of all the participants deputed for the course, within two weeks of completion of the course to the respective Command IT Officers as directed by IHQ MoD (N)/DIT.

27. Vendor would forward the resume of minimum four trainers for each course to the coordinator at each location atleast two weeks prior to scheduled training. Navy would carry out an interview with the trainers to ascertain their qualification, experience and other training abilities. **Only those trainers would conduct training who have been cleared by IHQMoD(N)/DIT or its nominated organization/unit.**

28. The documents regarding details of trainer, passport size photograph, ID proof, **ID card issued by employer, police verification** etc is to be forwarded by the vendor atleast one week prior to the schedule of the course for making relevant passes by Navy.

29. The IT training as stated at para 3 above, would be centrally co-ordinated by IHQ MoD (Navy) / DIT. At Delhi location, the training would be coordinated by DIT. The following Command IT Officers/ SO (IT) would co-ordinate training for locations mentioned against them:-

<b>SNo</b>	<b>Command</b>	<b>Location</b>
(a)	CITO (West)	Mumbai
(b)	CITO (East)	Vizag
(c)	CITO (South)	Kochi, Lonavala, Jamnagar
(d)	SO (IT), Goa Area	Goa
(e)	SSO (IT) (ANC)	Port Blair

30. Navy will promulgate the training schedule in consultation with the L1 firm.

31. Nomination of personnel for training at least two weeks in advance.

32. The passes for the instructors/ trainers are to be made prior conduct of training in each course to avoid delays in the training.

33. Forwarding of quarterly payment on receipt of documents.

#### Technical Bid

34. Vendors would be required to submit their Technical Bids in response to this TE. The format for the Technical bids is placed at **Appendix 'T'**.

35. INCOTERMS for Delivery and Transportation – NA

36. **Consignee Details.** PDIT, IHQ MoD(N), C Wing, SenaBhawan, New Delhi.

### **Part III – Standard Conditions of RFP**

The Bidder is required to give confirmation of their acceptance of the Standard Conditions of the Request for Proposal mentioned below which will automatically be considered as part of the Contract concluded with the successful Bidder (i.e. Seller in the Contract) as selected by the Buyer. Failure to do so may result in rejection of the Bid submitted by the Bidder.

1. **Law**: The Contract shall be considered and made in accordance with the laws of the Republic of India. The contract shall be governed by and interpreted in accordance with the laws of the Republic of India.
2. **Effective Date of the Contract**: The contract shall come into effect on the date of signatures of both the parties on the contract (Effective Date) and shall remain valid until the completion of the obligations of the parties under the contract. The deliveries and supplies and performance of the services shall commence from the effective date of the contract.
3. **Arbitration**: All disputes or differences arising out of or in connection with the Contract shall be settled by bilateral discussions. Any dispute, disagreement or question arising out of or relating to the Contract or relating to construction or performance, which cannot be settled amicably, may be resolved through arbitration. The standard clause of arbitration is as per Forms DPM-7, DPM-8 and DPM-9 (Available in MoD website and can be provided on request).
4. **Penalty for use of Undue influence**: The Seller undertakes that he has not given, offered or promised to give, directly or indirectly, any gift, consideration, reward, commission, fees, brokerage or inducement to any person in service of the Buyer or otherwise in procuring the Contracts or for bearing to do or for having done or for borne to do any act in relation to the obtaining or execution of the present Contract or any other Contract with the Government of India for showing or for bearing to show favour or disfavour to any person in relation to the present Contract or any other Contract with the Government of India. Any breach of the aforesaid undertaking by the Seller or any one employed by him or acting on his behalf (whether with or without the knowledge of the Seller) or the commission of any offence by the Seller or anyone employed by him or acting on his behalf, as defined in Chapter IX of the Indian Penal Code, 1860 or the Prevention of Corruption Act, 1988 or any other Act enacted for the prevention of corruption shall entitle the Buyer to cancel the contract and all or any other contracts with the Seller and recover from the Seller the amount of any loss arising from such cancellation. A decision of the Buyer or his nominee to the effect that a breach of the undertaking had been committed shall be final and binding on the Seller. Giving or offering of any gift, bribe or inducement or any attempt at any such act on behalf of the Seller towards any officer/employee of the Buyer or to any other person in a position to influence any officer/employee of the

Buyer for showing any favour in relation to this or any other contract, shall render the Seller to such liability/ penalty as the Buyer may deem proper, including but not limited to termination of the contract, imposition of penal damages, forfeiture of the Bank Guarantee and refund of the amount paid by the Buyer.

5. **Agents / Agency Commission**: The Seller confirms and declares to the Buyer that the Seller is the original manufacturer of the stores/provider of these services referred to in this Contract and has not engaged any individual or firm, whether Indian or foreign whatsoever, to intercede, facilitate or in any way to recommend to the Government of India or any of its functionaries, whether officially or unofficially, to the award of the contract to the Seller; nor has any amount been paid, promised or intended to be paid to any such individual or firm in respect of any such intercession, facilitation or recommendation. The Seller agrees that if it is established at any time to the satisfaction of the Buyer that the present declaration is in any way incorrect or if at a later stage it is discovered by the Buyer that the Seller has engaged any such individual/firm, and paid or intended to pay any amount, gift, reward, fees, commission or consideration to such person, party, firm or institution, whether before or after the signing of this contract, the Seller will be liable to refund that amount to the Buyer. The Seller will also be debarred from entering into any supply Contract with the Government of India for a minimum period of five years. The Buyer will also have a right to consider cancellation of the Contract either wholly or in part, without any entitlement for compensation to the Seller who shall in such an event be liable to refund all payments made by the Buyer in terms of the Contract along with interest at the rate of 2% per annum above LIBOR rate. The Buyer will also have the right to recover any such amount from any contracts concluded earlier with the Government of India.

6. **Access to Books of Accounts**: In case it is found to the satisfaction of the Buyer that the Seller has engaged an Agent or paid commission or influenced any person to obtain the contract as described in clauses relating to Agents/Agency Commission and penalty for use of undue influence, the Seller, on a specific request of the Buyer, shall provide necessary information/ inspection of the relevant financial documents/information.

7. **Non-disclosure of Contract documents**: Except with the written consent of the Buyer/ Seller, other party shall not disclose the contract or any provision, specification, plan, design, pattern, sample or information thereof to any third party.

8. **Liquidated Damages**: In the event of the Seller's failure to submit the Bonds, Guarantees and Documents, supply the stores/goods and conduct trials, installation of equipment, training, etc as specified in this contract, the Buyer may, at his discretion, withhold any payment until the completion of the contract. The BUYER may also deduct from the SELLER as agreed, liquidated damages to the sum of 0.5% of the contract price of the delayed/undelivered stores/services mentioned



above for every week of delay or part of a week, subject to the maximum value of the Liquidated Damages being not higher than 10% of the value of delayed stores.

9. **Termination of Contract:** The Buyer shall have the right to terminate this Contract in part or in full in any of the following cases:-

(a) The delivery of the material is delayed for causes not attributable to Force Majeure for more than (six months) after the scheduled date of delivery.

(b) The Seller is declared bankrupt or becomes insolvent.

(c) The delivery of the material is delayed due to causes of Force Majeure by more than (six months) provided Force Majeure clause is included in contract.

(d) The Buyer has noticed that the Seller has utilised the services of any Indian/Foreign agent in getting this contract and paid any commission to such individual/company etc.

(d) As per decision of the Arbitration Tribunal.

10. **Notices:** Any notice required or permitted by the contract shall be written in the English language and may be delivered personally or may be sent by FAX or registered pre-paid mail/airmail, addressed to the last known address of the party to whom it is sent.

11. **Transfer and Sub-letting:** The Seller has no right to give, bargain, sell, assign or sublet or otherwise dispose of the Contract or any part thereof, as well as to give or to let a third party take benefit or advantage of the present Contract or any part thereof.

12. **Patents and other Industrial Property Rights:** The prices stated in the present Contract shall be deemed to include all amounts payable for the use of patents, copyrights, registered charges, trademarks and payments for any other industrial property rights. The Seller shall indemnify the Buyer against all claims from a third party at any time on account of the infringement of any or all the rights mentioned in the previous paragraphs, whether such claims arise in respect of manufacture or use. The Seller shall be responsible for the completion of the supplies including spares, tools, technical literature and training aggregates irrespective of the fact of infringement of the supplies, irrespective of the fact of infringement of any or all the rights mentioned above.

13. **Amendments:** No provision of present Contract shall be changed or modified in any way (including this provision) either in whole or in part except by an instrument

in writing made after the date of this Contract and signed on behalf of both the parties and which expressly states to amend the present Contract.

14. **Taxes and Duties- In respect of Indigenous bidders**

(a) **General**

(i) If Bidder desires to ask for excise duty or Sales Tax / VAT extra, the same must be specifically stated. In the absence of any such stipulation, it will be presumed that the prices include all such charges and no claim for the same will be entertained.

(ii) If reimbursement of any Duty/Tax is intended as extra over the quoted prices, the Bidder must specifically say so. In the absence of any such stipulation it will be presumed that the prices quoted are firm and final and no claim on account of such duty/tax will be entertained after the opening of tenders.

(iii) If a Bidder chooses to quote a price inclusive of any duty/tax and does not confirm inclusive of such duty/tax so included is firm and final, he should clearly indicate the rate of such duty/tax and quantum of such duty/tax included in the price. Failure to do so may result in ignoring of such offers summarily.

(iv) If a Bidder is exempted from payment of any duty/tax up to any value of supplies from them, he should clearly state that no such duty/tax will be charged by him up to the limit of exemption which he may have. If any concession is available in regard to rate/quantum of any Duty/tax, it should be brought out clearly. Stipulations like, the said duty/tax was presently not applicable but the same will be charged if it becomes leviable later on, will not be accepted unless in such cases it is clearly stated by a Bidder that such duty/tax will not be charged by him even if the same becomes applicable later on. In respect of the Bidders, who fail to comply with this requirement, their quoted prices shall be loaded with the quantum of such duty/tax which is normally applicable on the item in question for the purpose of comparing their prices with other Bidders.

(v) Any change in any duty/tax upward/downward as a result of any statutory variation in excise taking place within contract terms shall be allowed to the extent of actual quantum of such duty/tax paid by the supplier. Similarly, in case of downward revision in any duty/tax, the actual quantum of reduction of such duty/tax shall be reimbursed to the Buyer by the Seller. All such adjustments shall

include all reliefs, exemptions, rebates, concession etc. if any obtained by the Seller.

(b) **Customs Duty**

(i) For imported stores offered against forward delivery, the Bidder shall quote prices thereof exclusive of customs duty. The Bidder shall specify separately the C.I.F. prices and total amount of customs duty payable. They will also indicate correctly the rate of customs duty applicable along with Indian Customs Tariff Number. Customs duty as actually paid will be reimbursed on production of necessary documents i.e. (i) Triplicate copy of the bill of entry; (ii) copy of bill of lading; (iii) a copy of foreign principal's invoice. However, if the Bidder imports the stores in question against his own commercial quota Import Licences, he will also be required to submit in addition the triplicate copy of bills of entry etc. a certificate from his Internal Auditor on the bill itself, to the effect that the following items/quantity in the bill of entry related to the stores imported against Defence Buyer contract number..... dated.....

(ii) Subsequent to the reimbursement of customs duty, the Bidder will submit to the concerned Payment Authority a certificate to the effect that he has not obtained any refund of customs duty subsequent to the payment of duty to the Customs authority by him. In addition, he shall also submit to the Paying Authority concerned a certificate immediately after a period of three months from the date of payment of the duty to customs authorities to the effect that he has not applied for refund of the customs duty subsequent to the payment of duty to the customs authorities by him.

(iii) In case the Bidder obtains any refund of customs duty, subsequently to the payment of the same by him to the customs authorities and reimbursement of the customs duty to him by the Payment Authority, he should forthwith furnish the details of the refund obtained and afford full credit of the same to the Buyer.

(c) **Excise Duty**

(i) Where the excise duty is payable on advalorem basis, the Bidder should submit along with the tender, the relevant form and the Manufacturer's price list showing the actual assessable value of the stores as approved by the Excise authorities.

(ii) Bidders should note that in case any refund of excise duty is granted to them by Excise authorities in respect of Stores supplied under the contract, they will pass on the credit to the Buyer immediately along with a certificate that the credit so passed on relates to the Excise Duty, originally paid for the stores supplied under the contract. In case of their failure to do so, within 10 days of the issue of

the excise duty refund orders to them by the Excise Authorities the Buyer would be empowered to deduct a sum equivalent to the amount refunded by the Excise Authorities without any further reference to them from any of their outstanding bills against the contract or any other pending Government Contract and that no disputes on this account would be raised by them.

(iii) The Seller is also required to furnish to the Paying Authority the following certificates:

(aa) Certificate with each bill to the effect that no refund has been obtained in respect of the reimbursement of excise duty made to the Seller during three months immediately preceding the date of the claim covered by the relevant bill.

(ab) Certificate as to whether refunds have been obtained or applied for by them or not in the preceding financial year after the annual Audit of their accounts also indicating details of such refunds/applications, if any.

(ac) A certificate along with the final payment bills of the Seller to the effect whether or not they have any pending appeal/protest for refund or partial refund of excise duties already reimbursed to the Seller by the Government pending with the Excise authorities and if so, the nature, the amount involved, and the position of such appeals.

(ad) An undertaking to the effect that in case it is detected by the Government that any refund from Excise Authority was obtained by the Seller after obtaining reimbursement from the Paying Authority, and if the same is not immediately refunded by the Seller to the Paying Authority giving details and particulars of the transactions, Paying Authority will have full authority to recover 181 such amounts from the Seller's outstanding bills against that particular contract or any other pending Government contracts and that no dispute on this account would be raised by the Seller.

(iv) Unless otherwise specifically agreed to in terms of the contract, the Buyer shall not be liable for any claim on account of fresh imposition and/or increase of Excise Duty on raw materials and/or components used directly in the manufacture of the contracted stores taking place during the pendency of the contract.

(d) **Sales Tax / VAT**

(i) If it is desired by the Bidder to ask for Sales tax / VAT to be paid asextra, the same must be specifically stated. In the absence of any such stipulation in the bid, it will be presumed that the prices

quoted by the Bidder are inclusive of sales tax and no liability of sales tax will be developed upon the Buyer.

(ii) On the Bids quoting sales tax extra, the rate and the nature of Sales Tax applicable at the time of supply should be shown separately. Sales tax will be paid to the Seller at the rate at which it is liable to be assessed or has actually been assessed provided the transaction of sale is legally liable to sales tax and the same is payable as per the terms of the contract.

(e) **Octroi Duty & Local Taxes.**

(i) Normally, materials to be supplied to Government Departments against Government Contracts are exempted from levy of town duty, Octroi Duty, Terminal Tax and other levies of local bodies. The local Town/Municipal Body regulations at times, however, provide for such Exemption only on production of such exemption certificate from any authorised officer. Seller should ensure that stores ordered against contracts placed by this office are exempted from levy of Town Duty/Octroi Duty, Terminal Tax or other local taxes and duties. Wherever required, they should obtain the exemption certificate from the Buyer, to avoid payment of such local taxes or duties.

(ii) In case where the Municipality or other local body insists upon payment of these duties or taxes the same should be paid by the Seller to avoid delay in supplies and possible demurrage charges. The receipt obtained for such payment should be forwarded to the Buyer without delay together with a copy of the relevant act or bylaws/notifications of the Municipality of the local body concerned to enable him to take up the question of refund with the concerned bodies if admissible under the said acts or rules.

15. **Pre-Integrity Pact Clause:** NA

## **Part IV – Special Conditions of RFP**

The Bidder is required to give confirmation of their acceptance of Special Conditions of the RFP mentioned below which will automatically be considered as part of the Contract concluded with the successful Bidder (i.e. Seller in the Contract) as selected by the Buyer. Failure to do so may result in rejection of Bid submitted by the Bidder.

1. **Performance Guarantee:**

(a) **Indigenous cases:** The Bidder will be required to furnish a Performance Guarantee by way of Bank Guarantee through a public sector bank or a private sector bank authorized to conduct government business (ICICI Bank Ltd., Axis Bank Ltd or HDFC Bank Ltd.) for a sum equal to 10% of the contract value within 30 days of receipt of the confirmed order. Performance Bank Guarantee should be valid up to 60 days beyond the date of warranty. The specimen of PBG is given in Form DPM-15 (Available in MoD website and can be provided on request).

(b) **Foreign cases.** NA

2. **Option Clause.** The contract will have an Option Clause, wherein the Buyer can exercise an option to procure 50% of the original contracted services / goods in accordance with the same terms & conditions of the present contract. This will be applicable within the currency of contract. The Bidder is to confirm the acceptance of the same for inclusion in the contract. It will be entirely the discretion of the Buyer to exercise this option or not.

3. **Repeat Order Clause.** The contract will have a Repeat Order Clause, wherein the Buyer can order upto 50% quantity of the items under the present contract within six months from the date of supply/successful completion of this contract, the cost, terms & conditions remaining the same. The Bidder is to confirm acceptance of this clause. It will be entirely the discretion of the Buyer to place the Repeat order or not.

4. **Tolerance Clause.** To take care of any change in the requirement during the period starting from issue of RFP till placement of the contract, Buyer reserves the right to **20%** plus/minus increase or decrease the quantity of the required goods/ services upto that limit without any change in the terms & conditions and prices quoted by the Seller. While awarding the contract, the quantity/services ordered has been increased or decreased by the Buyer within this tolerance limit.

5. **Payment Terms for Indigenous Sellers.** It will be mandatory for the Bidders to indicate their bank account numbers and other relevant e-payment details so that payments could be made through ECS/EFT mechanism instead of payment through cheques, wherever feasible. A copy of the model mandate form prescribed by RBI to be submitted by Bidders for receiving payments through ECS is at Form

DPM-11 (Available in MoDwebsite and can be given on request). The payment will be made as per the following terms, on production of the requisite documents: -

(a) The payment will be made on actual number of trainees trained (subject to maximum of final contracted amount).

(b) Quarterly payment will be made for courses completed in the previous quarter at all locations.

6. **Payment Terms for Foreign Sellers** **NA**

7. **Advance Payments:** No advance payment(s) will be made.

8. **Paying Authority:**

(a) **Indegenous Sellers.** PCDA(N), Mumbai will be the Paying Authority. The payment of bills will be made on submission of the following documents by the Seller to the Paying Authority along with the bill:

(i) Ink-signed copy of contingent bill / Seller's bill.

(ii) Ink-signed copy of Commercial invoice / Seller's bill.

(iii) Copy of Supply Order/Contract with U.O. number and date of IFA's concurrence, where required under delegation of powers.

(iv) CRVs in duplicate.

(v) Performance Bank guarantee / Indemnity bond where applicable.

(vi) DP extension letter with CFA's sanction, U.O. number and date of IFA's concurrence, where required under delegation of powers, indicating whether extension is with or without LD.

(vii) Details for electronic payment viz Account holder's name, Bankname, Branch name and address, Account type, Account number, IFSC code, MICR code (if these details are not incorporated in supply order/contract).

(viii) Any other document / certificate that may be provided for in the Supply Order / Contract– NA

(ix) User Acceptance – Certificate by DIT/CITOs/ITOs of respective locations.

(x) Xerox copy of PBG.

(b) **Foreign Sellers** **NA**

9. **Fall Clause** - The following fall clause will form part of the contract placed on successful Bidder:–

(a) The price charged for the stores supplied under the contract by the Seller shall in no event exceed the lowest prices at which the Seller sells

the stores or offer to sell stores of identical description to any persons/Organisation including the purchaser or any department of the Central government or any Department of state government or any statutory undertaking the central or state government as the case may be during the period till performance of all supply Orders placed during the currency of the rate contract is completed.

(b) If at any time, during the said period the Seller reduces the sale price, sells or offer to sell such stores to any person/organisation including the Buyer or any Dept of central Govt. or any Department of the State Government or any Statutory undertaking of the Central or state Government as the case may be at a price lower than the price chargeable under the contract, the shall forthwith notify such reduction or sale or offer of sale to the Director general of Supplies & Disposals and the price payable under the contract for the stores of such reduction of sale or offer of the sale shall stand correspondingly reduced. The above stipulation will, however, not apply to:--

- (i) Exports by the Seller.
- (ii) Sale of goods as original equipment at price lower than the prices charged for normal replacement.
- (iii) Sale of goods such as drugs which have expiry dates.
- (iv) Sale of goods at lower price on or after the date of completion of sale/placement of the order of goods by the authority concerned under the existing or previous Rate Contracts as also under any previous contracts entered into with the Central or State Govt Depts, including their undertakings excluding joint sector companies and/or private parties and bodies.

(c) The Seller shall furnish the following certificate to the Paying Authority along with each bill for payment for supplies made against the Rate contract –  
 “We certify that there has been no reduction in sale price of the stores of description identical to the stores supplied to the Government under the contract herein and such stores have not been offered/sold by me/us to any person/organisation including the purchaser or any department of Central Government or any Department of a state Government or any Statutory Undertaking of the Central or state Government as the case may be upto the date of bill/the date of completion of supplies against all supply orders placed during the currency of the Rate Contract at price lower than the price charged to the government under the contract except for quantity of stores categories under sub-clauses (a),(b) and (c) of sub-para (ii) above.

10. **Exchange Rate Variation Clause:**      **NA**

11. **Risk & Expense clause.**



(a) Should the stores or any instalment thereof not be delivered within the time or times specified in the contract documents, or if defective delivery is made in respect of the stores or any instalment thereof, the Buyer shall after granting the Seller 45 days to cure the breach, be at liberty, without prejudice to the right to recover liquidated damages as a remedy for breach of contract, to declare the contract as cancelled either wholly or to the extent of such default.

(b) Should the stores or any installment thereof not perform in accordance with the specifications / parameters provided by the SELLER during the check proof tests to be done in the BUYER's country, the BUYER shall be at liberty, without prejudice to any other remedies for breach of contract, to cancel the contract wholly or to the extent of such default.

(c) In case of a material breach that was not remedied within 45 days, the BUYER shall, having given the right of first refusal to the SELLER be at liberty to purchase, manufacture, or procure from any other source as he thinks fit, other stores of the same or similar description to make good:-

(i) Such default.

(ii) In the event of the contract being wholly determined the balance of the stores remaining to be delivered thereunder.

(d) Any excess of the purchase price, cost of manufacturer, or value of any stores procured from any other supplier as the case may be, over the contract price appropriate to such default or balance shall be recoverable from the SELLER. Such recoveries shall not exceed **100%** of the value of the contract."

## 12. **Force Majeure**

(a) Neither party shall bear responsibility for the complete or partial non performance of any of its obligations (except for failure to pay any sum which has become due on account of receipt of goods under the provisions of the present contract), if the non-performance results from such Force Majeure circumstances as Flood, Fire, Earth Quake and other acts of God as well as War, Military operation, blockade, Acts or Actions of State Authorities or any other circumstances beyond the parties control that have arisen after the conclusion of the present contract.

(b) In such circumstances the time stipulated for the performance of an obligation under the present contract is extended correspondingly for the period of time of action of these circumstances and their consequences.

(c) The party for which it becomes impossible to meet obligations under this contract due to Force Majeure conditions, is to notify in written form the other party of the beginning and cessation of the above circumstances immediately, but in any case not later than 10 (Ten) days from the moment of their beginning.

(d) Certificate of a Chamber of Commerce (Commerce and Industry) or other competent authority or organization of the respective country shall be a sufficient proof of commencement and cessation of the above circumstances.

(e) If the impossibility of complete or partial performance of an obligation lasts for more than 6 (six) months, either party hereto reserves the right to terminate the contract totally or partially upon giving prior written notice of 30 (thirty) days to the other party of the intention to terminate without any liability other than reimbursement on the terms provided in the agreement for the goods received.

13. **Buy-Back offer.** NA
14. **Specification.** NA
15. **OEM Certificate.** NA.
16. **Export Licence:** NA
17. **Earliest Acceptable Year of Manufacture.** NA
21. **Buyer Furnished Equipment.** NIL
22. **Transportation.** NA
23. **Air lift.** NA
24. **Packing and Marking.** All documents and deliverables (as per para 4 of Part II of RFP) be handed over.
25. **Quality.** The quality of the stores delivered according to the present Contract shall correspond to the technical conditions and standards valid for the deliveries of the same stores for in Seller's country or specifications enumerated as per RFP and shall also include therein modification to the stores suggested by the Buyer. Such modifications will be mutually agreed to. The Seller confirms that the stores to be supplied under this Contract shall be new i.e. not manufactured before 2009, and shall incorporate all the latest improvements and modifications thereto.
26. **Quality Assurance.** NA
27. **Inspection Authority.** The Inspection will be carried out by PDIT/Nominated rep. The mode of Inspection will be User Inspection / Joint Inspection.
28. **Pre-Dispatch Inspection.** There will be no pre-dispatch inspection.
29. **Joint Receipt Inspection.** NA
30. **Franking clause.** NA

31. **Claims**. The following Claims clause will form part of the contract placed on successful Bidder –

(a) The claims may be presented either: (a) on quantity of the stores, where the quantity does not correspond to the quantity shown in the Packing List/Insufficiency in packing, or (b) on quality of the stores, where quality does not correspond to the quality mentioned in the contract.

(b) The quantity claims for deficiency of quantity shall be presented within 45 days of completion of JRI and acceptance of goods. The quantity claim shall be submitted to the Seller as per Form DPM-22 (Available in MoD website and can be given on request).

(c) The quality claims for defects or deficiencies in quality noticed during the JRI shall be presented within 45 days of completion of JRI and acceptance of goods. Quality claims shall be presented for defects or deficiencies in quality noticed during warranty period earliest but not later than 45 days after expiry of the guarantee period. The quality claims shall be submitted to the Seller as per Form DPM-23 (Available in MoD website and can be given on request).

(d) The description and quantity of the stores are to be furnished to the Seller along with concrete reasons for making the claims. Copies of all the justifying documents shall be enclosed to the presented claim. The Seller will settle the claims within 45 days from the date of the receipt of the claim at the Seller's office, subject to acceptance of the claim by the Seller. In case no response is received during this period the claim will be to have been accepted.

(e) The Seller shall collect the defective or rejected goods from the location nominated by the Buyer and deliver the repaired or replaced goods at the same location under Seller's arrangement.

(f) Claims may also be settled by reduction of cost of goods under claim from bonds submitted by the Seller or payment of claim amount by Seller through demand draft drawn on an Indian Bank, in favour of Principal Controller/Controller of Defence Accounts concerned.

(g) The quality claims will be raised solely by the Buyer and without any certification/countersignature by the Seller's representative stationed in India.

32. **Warranty**. NA

33. **Product Support**. NA

34. **Annual Maintenance Contract (AMC) Clause**.NA

35. **Engineering Support Package (ESP) clause**. NA

36. **Price Variation (PV) Clause**. NA

## **PART V – ACCEPTANCE AND EVALUATION CRITERIA**

1. The evaluation will be carried out in three stages as indicated below:-
  - (a) Vendor Evaluation.
  - (b) Technical Evaluation.
  - (c) Commercial Evaluation.

### **Vendor Evaluation**

2. **Mandatory Quality Certifications.** The vendor must possess **ISO 9001: 2008** certification for conduct of IT Training. Appropriate documentary proof for the periodic internal and external audits must be furnished along with the Technical Bid including valid ISO training certificate.

3. The firm must be registered with NASSCOM and incorporated under Indian Companies Act 1956. A documentary proof of both registrations is required to be submitted along with technical bid.

4. The vendor must be an Information Technology company and specialised in IT education/training delivery.

5. **IT Training Centres.** The vendor should have its own training centres in atleast 04 locations where the training has been scheduled including one each mandatorily at Delhi and Mumbai. The list of training centres with address, contact details etc should be forwarded along with the technical bid. At other 06 locations where training is to be imparted, the firm may have own/ franchisee. For the locations except Delhi and Mumbai, where the firm does not have any training centre, the firm is to forward written request to IHQ MoD(N) for provisioning of classroom. The requirement is to be also indicated in the technical bid. However, responsibility for provisioning of hardware and other gadgets as mentioned in Para 2(e) and Para 9 of Part II for conduct of IT course would be that of the firm. **Confirmity of the above clause is mandatory.**

6. **Captive Infrastructure.** The firm should have its own captive infrastructure for training at Delhi and Mumbai which would be inspected by Naval reps as part of Technical evaluation. The following infrastructure must be available at the training centres.

<b>SNo</b>	<b>Infrastructure</b>	<b>Nos</b>
(a)	Structured Classrooms with capacity of minimum 20 trainees in each classroom	05 nos
(b)	Classroom must have networked PCs for training	PC to Trainee ratio must be 1:1
(c)	Availability of training simulator.	Availability of simulator for hands on training specially for NA/NS courses

(d)	Switches – 12/24 ports Cisco or Nortel Switches	Switch to trainee ratio must be atleast 1:4
(e)	Latest Cisco Routers	Router to trainee ratio must be atleast 1:4
(f)	Projector system with white board	01 per classroom
(g)	Licensed software	For courses as listed at para 3 of Part II of RFP
(h)	PCs for training	PC to trainee ratio must be 1:1
(j)	Lesson Plans	For every course conducted
(k)	Course material	Books, Handouts, CDs or any other course material

7. The firm should have certified trainers for training on courses mentioned at para 3 part II of RFP. The qualification of trainers should be as per para 18 of Part II of RFP. The trainers would be interviewed by reps from Navy at respective locations mentioned at para 4, part II of RFP. The vendor is to provide the list of probable trainer's alongwith their biodata & qualifications. The customer as right may visit the premises of the firm during Technical evaluation stage or as required after providing due notice for assessing the trainers qualifications and facilities available to impart training.

8. The vendor should have a minimum turnover of Rs 50 Crores in each of the previous three Financial Years i.e. 2012-13, 2013-14, 2014-15.

9. The vendor must be in the business of IT Training/education since atleast past three years from 01 Jan 2012. Documentary proof for this clause is to be submitted along with Technical bid.

10. The vendor must have executed atleast five successful IT Training programs for Govt organisation/ Defence/ PSUs of contract value not less than 10 lakhs each, in last three years.

11 The vendor must have trained more than 3000 trainees in last five years.

12. The vendor must have undertaken IT Training in at least four courses mentioned at para 3, part II of RFP for Govt Department, Defence or PSU, in the past five years.

13. For NA and NS courses - vendor must have conducted at least 10 CCNA /CCNS courses wherein trainees have been successful in achieving CCNA/CCNS CISCO certification.

14. Consortium approach is not acceptable.

15. Bidders who have been black listed/debarred by any govt. Deptt./PSUs/Nationalized Banks shall not be considered. An affidavit to this effect

shall be submitted by the bidder duly attested by authorized signatory.

16. The compliance to vendor evaluation criteria should be submitted as per the format placed at **Appendix 'V'**.

### **Technical Evaluation**

17. Only those firms which qualify Vendor Evaluation will qualify for Technical qualification.

18. The technical offer is to include the profile of the personnel involved in imparting training on the courses listed at para 3 Part II of RFP.

19. The technical proposal must include the exclusions / deviations from the syllabus contained at appendices to this RFP. If there are no exclusions/ deviations, a specific statement that the proposed syllabi are acceptable needs to be provided.

20. A para wise compliance matrix for all conditions listed in part II of the RFP is to be given. The format for the same is placed at **Appendix 'W'**. If any condition cannot be complied with, the same needs to be brought out by the vendor providing detailed justification.

21. The compliance to vendor evaluation criteria should be submitted as per the format placed at Appendix 'T'.

22. The commercial bid is to confirm to the format placed at **Appendix 'U'**. Bids not conforming to the format will be rejected.

23. **For calculating L1, total cost of training (all inclusive) at all locations would be considered.**

**Network Administration (Mapping to CCNA)**

**Time Duration – 96 Hours**

**Number of Sessions - 48**

**(Each Session is of 2 Hrs Duration)**

**1. Session 1-2: Basics of Networking and Design of Simple Network and Topologies**

- (a) Introduction to Computer Networking Concepts
  - (i) What is a Network?
  - (ii) Classification of Network
  - (iii) Network Topologies
  
- (b) Basic Hardware Components
  - (i) LAN Infrastructure Devices
  - (ii) WAN Infrastructure Devices
  - (iii) Network Cabling

**2. Session 3-6: Network Communications, OSI Reference Model and TCP/IP**

- (a) Network Models & Protocols
  - (i) Overview
  - (ii) Advantages of Layering
  - (iii) Introduction to Protocols
  - (iv) Need for Multiple Protocols
  
- (b) The Open System Interconnection (OSI) Reference Model
  - (i) Introduction
  - (ii) Layers in the OSI Model
  - (iii) Layer 7: The Application Layer
  - (iv) Layer 6: The Presentation Layer
  - (v) Layer 5: The Session Layer
  - (vi) Layer 4: The Transport Layer
  - (vii) Layer 3: The Network Layer
  - (viii) Layer 2: The data-link layer
  - (ix) Layer 1: The Physical Layer
  - (x) Interaction between OSI Model Layers
  
- (c) Transferring Information between Computers
  - (i) Data Encapsulation & Decapsulation
  - (ii) Devices Used At Each Layer of OSI Model
  
- (d) Transmission Control Protocol/Internet Protocol(TCP/IP) Model Or DOD Model
  - (i) A Brief Introduction
  - (ii) Layers in the TCP/IP Model
  - (iii) The TCP/IP Application Layer
  - (iv) The TCP/IP Transport Layer
  - (v) The TCP/IP Internet Layer

- (vi) The TCP/IP Network Access Layer
  - (e) Types of Addresses Used During Data Communication
    - (i) Introduction
    - (ii) Port Numbers
    - (iii) Socket Address
    - (iv) I.P. Address (Logical Address)
    - (v) Physical Address (Hardware Address/MAC Address)
- 3. Session 7-8: Protocols**
- (a) OSI vs. TCP/IP Model
  - (b) Transport Layer Protocols (TCP & UDP)
    - (i) Introducing Transport Layer Protocol
    - (ii) Transmission Control Protocol
    - (iii) User Datagram Protocol
  - (c) Internet Layer Protocols (IP, ICMP, ARP, RARP)
    - (i) Introduction to Internet Layer Protocols
    - (ii) Internet Protocol
    - (iii) IP Datagram
    - (iv) Address Resolution Protocol (ARP)
    - (v) Reverse Address Resolution Protocol (RARP)
    - (vi) Internet Control Message Protocol (ICMP)
    - (vii) Voice over Internet Protocol (VoIP)
- 4. Session 9-12: Fundamentals of LAN and WAN**
- (a) Ethernet Networking
  - (b) Media Access
  - (c) Ethernet at the Data Link Layer
    - (i) Introduction
    - (ii) Ethernet Addressing
    - (iii) Ethernet Frame Format
    - (iv) Ethernet at the Physical Layer
  - (d) Ethernet Cabling
    - (i) Introduction
    - (ii) Straight-Through Cable
    - (iii) Crossover Cable
    - (iv) Rolled Cable
  - (e) How to Make an Ethernet Cable
    - (i) Requirements
    - (ii) Standard, Straight-Through Wiring (Both Ends Are the Same)
    - (iii) Straight-Through Cable Pinout for T568A
    - (iv) Straight-Through Cable Pinout for T568B
  - (f) Basics of WAN
    - (i) What is WAN?
    - (ii) WAN Cabling Standards



- (iii) Clock Rates, Synchronization, DCE, and DTE
  - (iv) OSI Layer 2 for Point-to-Point WANs
- (g) Frame Relay
    - (i) What is Frame Relay?
    - (ii) Virtual Circuits
    - (iii) Advantages of Frame Relay
  - (h) Cisco Discovery Protocol
    - (i) What is Cisco Discovery Protocol?
    - (ii) How CDP Works?
    - (iii) Information Contained in CDP
- 5. Session 13-16: IP Addressing and Subnetting Concepts**
- (a) IP Addressing Definitions – An Introduction
  - (b) IP Terminology
  - (c) The Hierarchical IP Addressing Scheme
  - (d) Network Addressing
    - (i) A Brief Explanation of Network Addressing
    - (ii) Special Network ID and Host ID Address Patterns
    - (iii) Loopback Addresses
    - (iv) Private IP Addresses
  - (e) Subnetting
    - (i) What is Subnetting?
    - (ii) How to Create Subnets
    - (iii) Subnet Masks
  - (f) Classless Inter-Domain Routing (CIDR)
  - (g) Subnetting Class C Addresses
    - (i) Introduction
    - (ii) Subnetting a Class C Address: The Fast Way!
    - (iii) Subnetting Practice Examples: Class C Addresses
    - (iv) Subnetting Practice Examples: Class B Addresses
    - (v) Subnetting Practice Examples: Class A Addresses
  - (h) Variable Length Subnet Masks (VLSMs)
    - (i) What is VLSM?
    - (ii) Implementing VLSM Networks
  - (i) IP Summarization
  - (j) Troubleshooting IP Addressing
    - (i) Introduction
    - (ii) Troubleshooting Steps

- (k) Internet Protocol Version 6 (IPv6)
  - (i) What is IPv6?
  - (ii) The Benefits and Uses of IPv6
  - (iii) Differences from IPv4
- (l) Addressing
  - (i) 128-bit length
  - (ii) Notation
  - (iii) Address Types

## 6. Session 17-18: Introduction to Cisco Network Devices

- (a) Three Layer Model of Cisco
  - (i) Cisco Hierarchical Model – An Introduction
  - (ii) The Core Layer
  - (iii) The Distribution Layer
  - (iv) The Access Layer
- (b) Broadcast Domain & Collision Domain
  - (i) Broadcast Domain
  - (ii) Collision Domain
- (c) Network Devices
  - (i) Network Hub
  - (ii) The Switch
  - (iii) The Bridge
- (d) Chassis Information Catalyst 1900 Switch
- (e) Chassis Information Catalyst 2950 Switch
- (f) Chassis Information Catalyst 2960 Switch
- (g) Chassis Information Cisco 2800 Series Routers

## 7. Session 19-22: Working with a Cisco Router

- (a) Port and Cable Information for Cisco 2800 Series Routers
  - (i) Console and Auxiliary Port Considerations
  - (ii) Console Port on a Cisco Router
  - (iii) Auxiliary Port on a Cisco Router
- (b) Basic Components of a Router
  - (i) Introduction
  - (ii) Hardware Components
  - (iii) CPU
  - (iv) IOS
  - (v) RAM
  - (vi) NVRAM
  - (vii) Flash
  - (viii) ROM
  - (ix) Console
  - (x) Interfaces

- (c) Overview of Cisco Device Startup
- (d) Managing Configuration Register
  - (i) Introduction
  - (ii) Understanding the Configuration Register Bits
- (e) Router WAN Connections
  - (i) Serial Transmission
  - (ii) Data Terminal Equipment and Data Communication Equipment
  - (iii) Router Modes
  - (iv) Router Configuration
  - (v) Summary of Router Modes
- (f) Basic Router Commands
  - (i) Using Question Mark for Help
  - (ii) Keyboard Help
- (g) Administrative Configuration of a Single Cisco Router
  - (i) Introduction
  - (ii) Hostnames
  - (iii) Banners
  - (iv) Setting Passwords
- (h) Connect, Configure, and Verify the Operational Status of a Device Interface
  - (i) Introduction
  - (ii) Viewing, Saving, and Erasing Configurations
- (j) Upgrading the Cisco Router IOS
  - (i) Verifying Flash Memory
  - (ii) Backing Up the Cisco IOS
  - (iii) Restoring or Upgrading the Cisco Router IOS

## 8. Session 23-26: Routing Basics

- (a) Cisco's Security Device Manager (SDM)
  - (i) A Brief Overview of SDM
  - (ii) Set Up the Host to Log in Using The SDM
- (b) Routing Fundamentals
  - (i) Introducing Routing
  - (ii) Understanding the IP Routing Process
- (c) Autonomous System
  - (i) What is Autonomous System?
  - (ii) Types of Autonomous Systems
  - (iii) Autonomous System Numbers
- (d) IP Routing
  - (i) What is IP Routing?

- (ii) Static Routing
- (iii) How to Configure Static Routes on Cisco Routers?
- (iv) Default Route

## 9. **Session 27-30: Dynamic Routing (RIP, OSPF & EIGRP)**

- (a) Dynamic Routing
  - (i) What is Dynamic Routing?
  - (ii) Advantages of Dynamic Routing
  - (iii) Disadvantages of Dynamic Routing
- (b) Routed Protocols
  - (i) What are Routed Protocols?
  - (ii) Routing Protocols
- (c) Routing Protocol Basics
  - (i) Administrative Distances
  - (ii) Routing Metric
  - (iii) Convergence
  - (iv) Types of Dynamic Routing Protocols
- (d) Distance-Vector Routing Protocols
  - (i) A Brief Explanation of Distance-Vector Routing Protocols
  - (ii) Routing Loops
- (e) Routing Information Protocol (RIP)
  - (i) What is RIP?
  - (ii) RIP Timers
  - (iii) Configuring RIP Routing
  - (iv) Troubleshooting IP RIP
- (f) RIP Version 2 (RIPv2)
- (g) Interior Gateway Routing Protocol (IGRP)
  - (i) What is IGRP?
  - (ii) Configuring IP IGRP
  - (iii) Configuration Example
  - (iv) Troubleshooting IP IGRP
- (h) EIGRP Features and Operation
  - (i) Introducing EIGRP
  - (ii) Neighbor Discovery
  - (iii) Reliable Transport Protocol (RTP)
  - (iv) Diffusing Update Algorithm (DUAL)
  - (v) Using EIGRP to Support Large Networks
  - (vi) EIGRP Metrics
  - (vii) Configuring EIGRP
  - (viii) Troubleshooting EIGRP
- (j) Open Shortest Path First (OSPF)
  - (i) Open Shortest Path First (OSPF) Basics

- (ii) OSPF Terminology
- (iii) Configuring OSPF
- (iv) Troubleshooting OSPF
- (v) OSPF DR and BDR Elections

#### **10. Session 31-34: Configuring Routing Protocol**

- (a) Introduction to SDM & Basic configuration of Router using SDM
- (b) Interface Configuration
- (c) Routing Configuration Using SDM
  - (i) Static Routing Configuration
  - (ii) Dynamic Routing Configuration
- (d) Miscellaneous Configuration Of Router Using SDM
- (e) Verify Network Connectivity (Using Ping, Traceroute, And Telnet Or SSH)
  - (i) The ping Command
  - (ii) The Extended ping Command
  - (iii) Pinging with SDM
  - (iv) The traceroute Command
  - (v) Telnet in Routers

#### **11. Session 35-36: Network Security**

- (a) Perimeter, Firewall, and Internal Routers
- (b) Recognizing Security Threats
- (c) Mitigating Security Threats
- (d) Cisco's IOS Firewall

#### **12. Session 37-40: Using Access Control Lists**

- (a) Access Lists
  - (i) A Brief Overview of Access List
  - (ii) Types of Access Lists
- (b) Wildcard Masks
- (c) Standard Numbered ACLs
  - (i) Introduction
  - (ii) Activating a Standard IP ACL
  - (iii) Standard IP ACL Examples
  - (iv) Restricting Telnet Access to the Router
- (d) Extended Numbered ACLs
  - (i) An Overview
  - (ii) Command Syntax
  - (iii) established Keyword
  - (iv) Activating an Extended IP ACL
  - (v) Configuring ACL Example
- (e) Named ACLs

- (i) Introduction to Named ACLs
- (ii) Creating Named ACLs
- (iii) Activating a Named ACL
- (iv) Configuring a Named Access List
- (v) Verification of Access List
- (vi) Configuring Access Lists Using SDM

### 13. Session 41-42: Configuring Cisco Switches

- (a) Connecting a Cisco Catalyst Switch to a Computer
- (b) Bridges and Switches
  - (i) Identifying Main Functionality of Bridges and Switches
  - (ii) Switching Services
  - (iii) Methods of Switching
  - (iv) Limitations of Layer 2 Switching
  - (v) Bridging vs. LAN Switching
  - (vi) Switch Functioning at Layer 2
- (c) Address Learning – A Detailed Look
- (d) Forward/Filter Decisions – A Detailed Look
- (e) Port Security

### 14. Session 43-44: IOS Backup & Password Reset Techniques of Cisco Routers and Switches

- (a) Cisco IOS File System
- (b) Backing Up Configurations to a TFTP Server
- (c) Restoring Configurations from a TFTP Server
- (d) Restoring the Cisco IOS Software from ROM Monitor Mode Using Xmodem
- (e) Finding the Cisco IOS Software Image File
- (f) Sending the Cisco IOS Software Image File to the Router
- (g) Restoring the Cisco IOS Software Using the ROM Monitor Environmental Variables and tftpdnld Command
- (h) Configuration Register & Password Recovery Procedure

### 15. Session 45-46: Configuring NAT & PAT

- (a) Network Address Translation (NAT)
  - (i) When Do We Use NAT?
  - (ii) Types of Network Address Translation
  - (iii) NAT Names
  - (iv) How NAT Works:
  - (v) NAT overloading example (PAT)
- (b) Static NAT Configuration
- (c) Dynamic NAT Configuration
- (d) PAT (Overloading) Configuration
- (e) Simple Verification of NAT
- (f) Configuring NAT Using SDM

### 16. Session 47-48: Configuring DNS and DHCP, and Introduction to IPv6

- (a) Configuring Dynamic Host Configuration Protocol (DHCP)
  - (i) Dynamic Host Configuration Protocol - Basics
  - (ii) DHCP Devices and Operation
  - (iii) DHCP Address Allocation Types
  - (iv) DHCP Server Configuration
  - (v) DHCP Client Configuration
  - (vi) Configure Internal DHCP Server on a Router Through SDM
  
- (b) Resolving Hostnames
  - (i) Identifying Methods to Resolve Hostname
  - (ii) Building a Host Table
  - (iii) Using DNS to Resolve Names
  
- (c) Internet Protocol Version 6 (IPv6)
  - (i) Why the Need for Ipv6?
  - (ii) Benefits of IPv6:
  - (iii) IPv6 Addressing and Expressions
  - (iv) How IPv6 Works in an Internetwork
  - (v) Autoconfiguration
  - (vi) Configuring Cisco Routers with IPv6
  - (vii) IPv6 Routing Protocols
  - (viii) Migrating to IPv6

Network SecurityTime Duration – 96 HoursNumber of Sessions - 48**(Each Session is of 2 Hrs Duration)**

- 1. Session 1-3: Introduction to Network Security**
  - (a) Threats to Network Security
  - (b) Network Security Objectives
  - (c) Classification of Data
  - (d) Security Controls
  - (e) Incident Response
  - (f) Law and Ethics
  
- 2. Session 4-6: Creating the Secure Network**
  - (a) Creating a Security Policy
  - (b) Maintaining Operational Security
  - (c) Evolution of Threats
  - (d) The Cisco Self-Defending Network
  
- 3. Session 7-10: Securing Administrative Access**
  - (a) Securing Administrative Access
  - (b) Cisco ISR Routers
  - (c) Cisco Security Device Manager (SDM)
  
- 4. Session 11-16: Configuring AAA Services**
  - (a) Defining AAA Services
  - (b) Defining RADIUS and TACACS+
  - (c) Configuring AAA Using Cisco Secure ACS
  - (d) Configuring Authentication
  - (e) Troubleshooting AAA on Cisco Routers
  
- 5. Session 17-20: Securing Your Router**
  - (a) Using the Command-Line Interface to Lock Down the Router
  - (b) Understanding One-Step Lockdown
  - (c) Securing Management and Logging
  
- 6. Session 21-28: Layer 2 Security**
  - (a) Basic Protection of Layer 2 Switches
  - (b) How to Prevent VLAN Attacks
  - (c) Mitigating STP Attacks
  - (d) Mitigating DHCP Server Spoofing
  - (e) Protecting against CAM Table Attacks
  - (f) Preventing MAC Spoofing
  - (g) Configuring Port Security
  - (h) Configuring SPAN, RSPAN, and Storm Control
  
- 7. Session 29-32: Implementing Cisco IOS Firewall**



- (a) Firewall Basics
  - (b) Access Control Lists
  - (c) The Cisco IOS Firewall
  - (d) Configure Cisco IOS Firewall with SDM
  - (e) Verify Cisco IOS Firewall Configurations
  - (f) Implementing Zone-Based Firewall
- 8. Session 33-34: Implementing Cisco IOS Intrusion Prevention**
- (a) IDS and IPS
  - (b) Configuring IOS IPS
- 9. Session 35-37: Understanding Cryptographic Solutions**
- (a) Introduction to Cryptography
  - (b) Symmetric Encryption
  - (c) Encryption Algorithms
- 10. Session 38-40: Using Digital Signatures**
- (a) Hashing Overview
  - (b) Features of Hash Functions and Values
  - (c) Hash Message Authentication Code
  - (d) Hashing Algorithms
  - (e) Digital Signatures
- 11. Session 41-45: Using Asymmetric Encryption and PKI**
- (a) Asymmetric Encryption
  - (b) Asymmetric Encryption Algorithms
  - (c) Public Key Infrastructure
  - (d) Digital Certificates
  - (e) PKI Standards
- 12. Session 46-48: Implementing Site-to-Site IPsec VPN Solutions**
- (a) Introduction to Virtual Private Networks and IPsec
  - (b) VPN Operation
  - (c) Cisco Easy VPN

Windows Server 2012 Advanced Administration and SecurityTime Duration – 96 HoursNumber of Sessions - 48**(Each Session is of 2 Hrs Duration)****Part 1: Windows Server 2012 Advanced Administration**

- 1. Session 1-2: Deploying and Managing Windows Server 2012**
  - (a) Windows Server 2012 Overview
  - (b) Overview of Windows Server 2012 Management
  - (c) Installing Windows Server 2012
  - (d) Post-Installation Configuration of Windows Server 2012
  - (e) Introduction to Windows Power Shell
- 2. Lab : Deploying and Managing Windows Server 2012**
  - (a) Deploying Windows Server 2012
  - (b) Configuring Windows Server 2012 Server Core
  - (c) Managing Servers
  - (d) Using Windows Power Shell to Manage Servers
- 3. Session 3-4: Introduction to Active Directory Domain Services**
  - (a) Overview of AD DS
  - (b) Overview of Domain Controllers
  - (c) Installing a Domain Controller
- 4. Lab : Installing Domain Controllers**
  - (a) Installing a Domain Controller
  - (b) Installing a Domain Controller by Using IFM
- 5. Session 5-7: Managing Active Directory Domain Services Objects**
  - (a) Managing User Accounts
  - (b) Managing Group Accounts
  - (c) Managing Computer Accounts
  - (d) Delegating Administration
- 6. Lab : Managing Active Directory Domain Services Objects**
  - (a) Delegating Administration for a Branch Office
  - (b) Creating and Configuring User Accounts in AD DS
  - (c) Managing Computer Objects in AD DS
- 7. Session 8: Automating Active Directory Domain Services Administration**
  - (a) Using Command-line Tools for AD DS Administration
  - (b) Using Windows PowerShell for AD DS Administration
  - (c) Performing Bulk Operations with Windows PowerShell
- 8. Lab : Automating AD DS Administration by Using Windows PowerShell**
  - (a) Creating User Accounts and Groups by Using Windows PowerShell

- (b) Using Windows PowerShell to Create User Accounts in Bulk
  - (c) Using Windows PowerShell to Modify User Accounts in Bulk
- 9. Session 9-10: Implementing IPv4**
- (a) Overview of TCP/IP
  - (b) Understanding IPv4 Addressing
  - (c) Subnetting and Supernetting
  - (d) Configuring and Troubleshooting IPv4
- 10. Lab : Implementing IPv4**
- (a) Identifying Appropriate Subnets
  - (b) Troubleshooting IPv4
- 11. Session 11-12: Implementing Dynamic Host Configuration Protocol**
- (a) Installing a DHCP Server Role
  - (b) Configuring DHCP Scopes
  - (c) Managing a DHCP Database
  - (d) Securing and Monitoring DHCP
- 12. Lab : Implementing DHCP**
- (a) Implementing DHCP
  - (b) Implementing a DHCP Relay Agent (Optional Exercise)
- 13. Session 13-14: Implementing Domain Name System**
- (a) Name Resolution for Windows Client and Servers
  - (b) Installing and Managing a DNS Server
  - (c) Managing DNS Zones
- 14. Lab : Implementing DNS**
- (a) Installing and Configuring DNS
  - (b) Creating Host Records in DNS
  - (c) Managing the DNS Server Cache
- 15. Session 15-16: Implementing IPv6**
- (a) Overview of IPv6
  - (b) IPv6 Addressing
  - (c) Coexistence with IPv6
  - (d) IPv6 Transition Technologies
- 16. Lab : Implementing IPv6**
- (a) Configuring an IPv6 Network
  - (b) Configuring an ISATAP Router
- 17. Session 17: Implementing Local Storage**
- (a) Overview of Storage
  - (b) Managing Disks and Volumes
  - (c) Implementing Storage Spaces
- 18. Lab : Implementing Local Storage**
- (a) Installing and Configuring a New Disk

- (b) Resizing Volumes
- (c) Configuring a Redundant Storage Space
- 19. Session 18: Implementing File and Print Services**
  - (a) Securing Files and Folders
  - (b) Protecting Shared Files and Folders by Using Shadow Copies
  - (c) Configuring Network Printing
- 20. Lab : Implementing File and Print Services**
  - (a) Creating and Configuring a File Share
  - (b) Configuring Shadow Copies
  - (c) Creating and Configure a Printer Pool
- 21. Session 19-21: Implementing Group Policy**
  - (a) Overview of Group Policy
  - (b) Group Policy Processing
  - (c) Implementing a Central Store for Administrative Templates
- 22. Lab : Implementing Group Policy**
  - (a) Configuring a Central Store
  - (b) Creating GPOs
- 23. Session 22-24: Securing Windows Servers Using Group Policy Objects**
  - (a) Windows Operating Systems Security Overview
  - (b) Configuring Security Settings
  - (c) Restricting Software
  - (d) Configuring Windows Firewall with Advanced Security
- 24. Lab : Lab A: Increasing Security for Server Resources**
  - (a) Using Group Policy to Secure Member Servers
  - (b) Auditing File System Access
  - (c) Auditing Domain Logons
- 25. Lab : Lab B: Configuring AppLocker and Windows Firewall**
  - (a) Configuring AppLocker Policies
  - (b) Configuring Windows Firewall
- 26. Session 25-27: Implementing Server Virtualization with Hyper-V**
  - (a) Overview of Virtualization Technologies
  - (b) Implementing Hyper-V
  - (c) Managing Virtual Machine Storage
  - (d) Managing Virtual Networks
- 27. Lab : Implementing Server Virtualization with Hyper-V**
  - (a) Installing the Hyper V Role onto a Server
  - (b) Configuring Virtual Networking
  - (c) Creating and Configuring a Virtual Machine
  - (d) Using Virtual Machine Snapshots
- 28. Session 28-30: Implementing Disaster Recovery**
  - (a) Overview of Disaster Recovery

- (b) Implementing Windows Server Backup
- (c) Implementing Server and Data Recovery

## **Part 2: Windows Server 2012 Security Implementation**

### **29. Session 31-33 Server-Level Security**

- (a) Defining Windows Server 2012 Security
- (b) Deploying Physical Security
- (c) Using the Integrated Windows Firewall with Advanced Security
- (d) Hardening Servers
- (e) Examining File-Level Security
- (f) Malware and Backup Protection
- (g) Using Windows Server Update Services

### **30. Session 34-36: Securing Data in Transit**

- (a) Introduction to Securing Data in Transit in Windows Server 2012
- (b) Deploying a Public Key Infrastructure with Windows Server 2012
- (c) Understanding Active Directory Certificate Services in Windows Server 2012
- (d) Active Directory Rights Management Services
- (e) Using IPsec Encryption with Windows Server 2012

### **31. Session 37-48: Network Policy Server, Network Access Protection and Routing and Remote Access**

- (a) Understanding Network Access Protection in Windows Server 2012
- (b) Deploying a Windows Server 2012 Network Policy Server
- (c) Enforcing Policy Settings with a Network Policy Server
- (d) Verifying the Client-Side Configuration
- (e) Deploying a Virtual Private Network Using RRAS

**Fundamentals of Database Management****Time Duration – 48 Hours****Number of Sessions – 24****(Each Session is of 2 Hrs Duration)**

- 1. Session 1-2: Introducing Database System Concept**
  - (a) Introduction to Database Systems
  - (b) Database System Environment
    - (i) Levels of Architecture
    - (ii) Inter-level Mappings
    - (iii) The Database Administrator
    - (iv) The Database Management System
    - (v) Components of DBMS Suite
    - (vi) The Front-end and Back-end Perspectives
    - (vii) Database System Architecture
  - (c) Exercise
  
- 2. Session 3-16: Understanding the Relational Database Model**
  - (a) The Relational Model
    - (i) Basic Concepts
    - (ii) Domains
    - (iii) Relations
    - (iv) Relational Database System
    - (v) Identifying, Representing, and Implementing Relationships
    - (vi) The Relation-Attributes List and Relationship List
    - (vii) Non-Relational Approaches
  - (b) Integrity Rules and Normalization
    - (i) Fundamental Integrity Rules
    - (ii) Foreign Key Concept
    - (iii) Rationale for Normalization
    - (iv) Functional Dependence and Non-loss Decomposition
    - (v) The First Normal Form
    - (vi) The Second Normal Form
    - (vii) The Third Normal Form
    - (viii) The Boyce-Codd Normal Form
    - (ix) The Fourth Normal Form
    - (x) The Fifth Normal Form
  - (c) Database Modeling and Design
    - (i) Database Model and Database Design
    - (ii) The E-R Model Revisited
    - (iii) Database Design via the E-R Model
    - (iv) The UML Model
    - (v) Database Design via the UML Model
    - (vi) Database Design via Normalization Theory
    - (vii) Database Model and Design Tools
  - (d) Database User Interface Design
  - (e) Relational Algebra
    - (i) Introduction

- (ii) Basic Operations of Relational Algebra
- (iii) Syntax of Relational Algebra
- (iv) Aliases, Renaming and the Relational Assignment
- (v) Other Operators
- (f) Relational Calculus
- (g) Exercise

### 3. **Session 17-24: Working with the Structured Query Language**

- (a) Overview of SQL
- (b) SQL Data Definition Statements
  - (i) Overview of Oracle's SQL Environment
  - (ii) Database Creation
  - (iii) Database Management
  - (iv) Tablespace Creation
  - (v) Tablespace Management
  - (vi) Table Creation Statement
  - (vii) Dropping or Modifying a Table
  - (viii) Working with Indexes
  - (ix) Creating and Managing Sequences
  - (x) Altering and Dropping Sequences
  - (xi) Creating and Managing Synonyms
- (c) SQL Data Manipulation Statements
  - (i) Insertion of Data
  - (ii) Update Operations
  - (iii) Deletion of Data
  - (iv) Commit and Rollback Operations
  - (v) Basic Syntax for Queries
  - (vi) Simple Queries
  - (vii) Queries Involving Multiple Tables
  - (viii) Queries Involving the use of Functions
  - (ix) Queries Using LIKE, BETWEEN and IN Operators
  - (x) Nested Queries
  - (xi) Queries Involving Set Operators
- (d) Exercise

**Project Management with MS Project 2013****Time Duration – 48 Hours****Number of Sessions - 24****(Each Session is of 2 Hrs Duration)****1. Session 1-4: Familiarizing with the Basic Concepts of Project Management**

- (a) Introduction to Project Management
- (b) Project Scope Management
- (c) Project Management Terms You Should Be Aware Of
- (d) Project Management Tools
- (e) Exercise

**2. Session 5-12: Getting Started with Microsoft Project 2013**

- (a) Introduction to Managing Projects with Microsoft Project 2013
  - (i) What Microsoft Project 2013 Can Do for You
  - (ii) Laying a Foundation
  - (iii) The Project 2013 Version You Need
  - (iv) What's New in Project 2013?
- (b) Navigating Project 2013
  - (i) Using the Ribbon
  - (ii) Understanding Project Views
  - (iii) Working with Project Views
  - (iv) Using the Timeline
- (c) Starting a Project
  - (i) Setting Up a Project
  - (ii) Setting Project Properties and Options
  - (iii) Choosing a Project Start or Finish Date
  - (iv) Setting Up Your Project's Calendars
- (d) Lab Practice

**3. Session 13-16: Managing Tasks**

- (a) How Does Project 2013 Schedule Tasks?
- (b) Understanding Task Types
- (c) Adding Tasks to Your Project
- (d) Setting Up Task Dependencies
- (e) Creating a Work Breakdown Structure
- (f) Lab Practice

**4. Session 17-22: Managing Resources**

- (a) Creating Resources
  - (i) Understanding Resources
  - (ii) Creating Resource
  - (iii) Managing Resource Availability



- (iv) Sharing Resources
- (b) Working with Calendars
  - (i) Mastering Base, Project, Resource, and Task Calendars
  - (ii) Scheduling with Calendar Options and Working Times
  - (iii) Working with Task Calendars and Resource Calendars
  - (iv) Creating a Custom Calendar Template
  - (v) Sharing Copies of Calendars
- (c) Assigning Resources
  - (i) Finding the Right Resource
  - (ii) Making a Useful Assignment
  - (iii) Benefitting from a Helpful Planner
- (d) Determining a Project's Cost
  - (i) How Do Your Costs Accrue
  - (ii) Specifying Cost Information in the Project
  - (iii) How Your Settings Affect Your Costs
- (e) Lab Practice

**5. Session 23-24: Getting Information about Projects**

- (a) Capturing Project Progress
  - (i) Baselining Your Project
  - (ii) Gathering Status Updates from Resources
- (b) Sharing Your Project with Others
  - (i) Reporting on Your Project
  - (ii) Sharing Data with Others
  - (iii) Collaborating with Others on Your Project
- (c) Lab Practice

**Hardware Training****Time Duration – 96 Hours****Number of Sessions - 48****(Each Session is of 2 Hrs Duration)**

- 1. Session 1-2: Personal Computer Components**
  - (a) Introduction to Computers
  - (b) Basics of Computer Communication
  - (c) Data Transfer Inside a Computer
  - (d) Parallel and Serial Communication
  - (e) Basic Elements of Computer
  - (f) Introduction to Digital Electronics
  - (g) Converting Amongst Different Number Systems
  - (h) Understanding Various Binary Codes
  - (j) How Computer Works
  - (k) Components & Peripherals of Computer
  
- 2. Session 3-4: Operating System Basics**
  - (a) Understanding Operating Systems
  - (b) Going Virtual
  - (c) Interacting with Operating Systems
  - (d) Administrative Tools
  - (e) Disk Management
  
- 3. Session 5-8: The Processing Unit of a Computer**
  - (a) Introduction to Microprocessor
  - (b) External Interface Components
  - (c) Peeking Inside the Microprocessor
  - (d) How Microprocessor Works
  - (e) Physical Characteristics of Processor
  - (f) Processor Performance and Capability Factors
  - (g) Major Developments in Processor Evolution
  - (h) Generation-Wise Processor Evolution
  
- 4. Session 9-12: Storage Devices of a Computer**
  - (a) Key Components of a Hard Disk
  - (b) Geometry of Hard Disk Drive
  - (c) Hard Disk Operational Overview
  - (d) Hard Disk Drive Types
  - (e) RAID Technology - An Overview
  - (f) Floppy Disk Drive
  - (g) Optical Drives
  
- 5. Session 13-16: Memory, Power Supply and Motherboard**
  - (a) An Overview of Computer Memory
  - (b) Memory Packaging
  - (c) Memory Errors: Detection and Correction

- (d) Memory Mapping
  - (e) An Overview of Power Supplies
  - (f) Power Supply Form Factors
  - (g) Power Supply Output and Ratings
  - (h) Power Supply Connectors
  - (j) Power Supply Problems
  - (k) Protection against Power Problems
  - (l) Motherboard
  - (m) Configuring BIOS
  - (n) Interrupts
  - (p) Direct Memory Access (DMA)
  - (q) Chipset
- 6. Session 17-18: Expansion Slots, Ports and Connectors**
- (a) An Overview of Expansion Slots
  - (b) Ports
  - (c) Cables and Connectors
- 7. Session 19-20: Installing and Upgrading PC Components**
- (a) Motherboards and Onboard Components
  - (b) Power Supplies
  - (c) Cooling Systems
  - (d) Adapter Cards
  - (e) Storage Devices
  - (f) I/O Devices
- 8. Session 21-22: Display Devices**
- (a) Understanding Display Types and Settings
  - (b) Understanding Video Standards and Technologies
- 9. Session 23-26: Custom Configurations**
- (a) Graphic and CAD/CAM Design Workstations
  - (b) Audio/Video Editing Workstations
  - (c) Virtualization Workstations
  - (d) Gaming PCs
  - (e) Home Theater PCs
  - (f) Standard Thick Clients
  - (g) Thin Clients
  - (h) Home Server PCs
- 10. Session 27-30: Networking Fundamentals**
- (a) Understanding Networking Principles
  - (b) Identifying Common Network Hardware
  - (c) Understanding TCP/IP
- 11. Session 31-33: Installing Wireless and SOHO Networks**
- (a) Understanding Wireless Networking
  - (b) Installing and Configuring SOHO Networks
- 12. Session 34-36: Understanding Laptops**

- (a) Understanding Laptop Architecture
  - (b) Disassembling and Reassembling Laptops
- 13. Session 37-38: Installing and Configuring Printers**
- (a) Understanding Printer Types and Processes
  - (b) Installing and Configuring Printers
  - (c) Performing Printer Maintenance and Upgrades
- 14. Session 39-44: Troubleshooting, Repair, and Maintenance of PCs**
- (a) Troubleshooting Theory and Techniques
  - (b) Troubleshooting Software Problems
  - (c) Troubleshooting PC Component Problems
  - (d) Troubleshooting Tools
  - (e) Preventive Maintenance Techniques
- 15. Session 45-48: Security**
- (a) Common Prevention Methods
  - (b) Common Security Threats
  - (c) Workstation Security Best Practices
  - (d) Destruction and Disposal Methods
  - (e) Securing a SOHO Wireless Network
  - (f) Securing a SOHO Wired Network

**IT Professional Course****Time Duration – 96 Hours****Number of Sessions – 48****(Each Session is of 2 Hrs Duration)****1. Session 1-6: Personal Computer Components**

- (a) Introduction to Computers
  - (i) Definition of Computer
  - (ii) Characteristics of Computer
  - (iii) Application Areas of Computers
  
- (b) Basics of Computer Communication
  - (i) Defining Communication
  - (ii) Early Communication
  - (iii) Telegraph and Radio Communication
  - (iv) Language of Computers
  
- (c) Data Transfer inside a Computer
  
- (d) Parallel and Serial Communication
  
- (e) Basic Elements of Computer
  - (i) Hardware & Software
  - (ii) Operating System
  - (iii) Application Software
  
- (f) How Computer Works
  - (i) Introduction
  - (ii) Input
  - (iii) Processing
  - (iv) Output
  - (v) Storage
  
- (g) Components & Peripherals of Computer
  - (i) Introduction to Computer Components & Peripherals
  - (ii) Primary Components of Computer
  - (iii) Computer Peripherals
  - (iv) Keyboard
  - (v) Mouse
  - (vi) VDUs
  - (vii) Printers
  - (viii) Scanner
  - (ix) Joystick
  - (x) Microphone
  - (xi) Webcam
  - (xii) Digital Camera
  - (xiii) Plotter
  - (xiv) Speaker

- (h) Processing Device
  - (i) What is a Processing Device?
  - (ii) ALU
  - (iii) CU
- (j) An Overview of Computer Memory
  - (i) Introduction to Computer Memory
  - (ii) Types of Computer Memory
  - (iii) Types of RAM
  - (iv) Some Common Memory Related Terminologies
- (k) Memory Mapping
  - (i) What is Memory Mapping?
  - (ii) Conventional (Base) Memory
  - (iii) Upper Memory Area (UMA)
  - (iv) Expanded Memory
  - (v) High Memory Area (HMA)
  - (vi) Extended Memory Specification (XMS)
- (l) Peeking Inside the Microprocessor
  - (i) What is Inside the Microprocessor?
  - (ii) L1 Cache
  - (iii) L2 Cache
- (m) Motherboard
  - (i) Introduction to Motherboard
  - (ii) Closely Associated Components
  - (iii) Key Assessable Parameters of Motherboard:
- (n) Chipset
  - (i) Chipset – An Overview
  - (ii) Northbridge
  - (iii) Southbridge
- (p) Interrupts
  - (i) What are Interrupts?
  - (ii) Interrupt Vector Table
  - (iii) Hardware Interrupts
  - (iv) Software Interrupts
  - (v) Interrupt Priority
  - (vi) Real Time Clock (RTC)
  - (vii) The Clock
- (q) Direct Memory Access (DMA)

## 2. Session 7-8: Operating System Fundamentals

- (a) Operating System – A Brief Introduction
  - (i) What is an Operating System?
  - (ii) Identifying Functionalities of Operating System

- (iii) File Organization
  - (iv) Interface Modes for Operating System
- (b) Introduction to Command Prompt (MS-DOS)
- (i) What is a Command Prompt?
  - (ii) What is DOS?
  - (iii) Understanding DOS Boot Sequence
  - (iv) Understanding DOS File System
- (c) Working with DOS Commands
- (i) What is a DOS Command?
  - (ii) Internal vs. External Commands
  - (iii) Basic DOS Commands
  - (iv) Advanced DOS Commands

### 3. **Session 9-14: Working in Windows 7**

- (a) Overview of Windows 7
- (i) Introducing Windows 7
  - (ii) Identifying Windows 7 Versions
  - (iii) Choosing the Right Version
  - (iv) Windows 7 Features
  - (v) Using the Windows 7 Desktop
  - (vi) Introduction
  - (vii) Log On and Off Windows 7
  - (viii) Work with the Start Menu
  - (ix) Work with Frequently Used Programs
  - (x) Set the Date and Time
  - (xi) Cleaning Up a Messy Desktop
  - (xii) Create a Desktop Shortcut
  - (xiii) Empty the Recycle Bin
  - (xiv) Shut Down Your Computer
  - (xv) Controlling Applications with Windows 7
  - (xvi) Introduction
  - (xvii) Start an Application Automatically
  - (xviii) Close an Application
  - (xix) Set Program Defaults
  - (xx) Remove an Application
- (b) Working with Files and Folders
- (i) Introduction
  - (ii) Access Recently Used Items from the Start Menu
  - (iii) Locate Files and Folders in Your Computer
  - (iv) Locate Files and Folders in Windows Explorer
  - (v) Search for a File
  - (vi) Move a File or Folder
  - (vii) Rename a File or Folder
  - (viii) Print a File
  - (ix) Delete a File or Folder
  - (x) Create a Compressed File

- (c) Using Built-In Windows Applications
  - (i) Introduction
  - (ii) Create a Formatted Document in WordPad
  - (iii) Work With Calculator
  - (iv) Work with Paint
  - (v) Clip with the Windows Snipping Tool
- (d) Working with Windows 7 Control Panel
  - (i) The Windows 7 Control Panel Compared To Vista
  - (ii) Customizing the Windows 7 Desktop
- (e) Printing in Windows 7
  - (i) Printing a File
  - (ii) Specifying a Default Printer
- (f) Using Windows 7 Defect Diagnostic Tools
  - (i) Introduction
  - (ii) The Action Center in Windows 7
  - (iii) Disk Cleanup Utility in Window 7
  - (iv) Disk Defragmenter Utility in Window 7
  - (v) Hard Drive Checkups Tool in Window 7
  - (vi) Disk Management Tool in Window 7

#### 4. **Session 15-20: Introduction to Networking**

- (a) Getting Introduced to Network
  - (i) What is a Network?
  - (ii) Understanding the Concept of Networking
  - (ii) What is a Computer Network?
- (b) Understanding Networking Architecture
  - (i) Explaining Client, Server and Peers
  - (ii) Explaining Server (domain) / Client Networks
  - (iii) Explaining Peer Networks
  - (iv) Explaining Hybrid Networks
  - (v) Identifying Types of Network
- (c) Introducing Computer Networking Concepts
  - (i) What is a Computer Network?
  - (ii) Identifying Application of Computer Network
  - (iii) Identifying Components of Network
  - (iv) Understanding Signals and Protocols
  - (v) Explaining Types of Computer Network
- (d) Defining Some Basic Network Terminologies
- (e) Understanding Network Architecture
  - (i) What is Network Architecture?
  - (ii) Explaining Peer-to-Peer Network Architecture
  - (iii) Explaining Client/Server Architecture



- (f) Explaining OSI Reference Model
  - (i) Overview of OSI Reference Model
  - (ii) Understanding the OSI Seven Layers Model
  - (iii) Explaining Seven Layers of OSI Model
  
- (g) Describing TCP/IP Networking Architecture
  - (i) Introducing TCP/IP Networking Protocols
  - (ii) Exploring the Layers of the TCP/IP Model
  
- (h) Understanding Internet Addressing
  - (i) Introduction to IP Addressing
  - (ii) Explaining IP Address Assignments
  - (iii) Identifying IP Address Classes
  - (iv) Discussing Subnet Masking
  - (v) Differentiating Registered and Unregistered Addresses
  - (vi) Explaining IPv6 Addressing
  
- (j) Understanding Half- and Full-Duplex Modes
  
- (k) Topology
  - (i) Overview
  - (ii) Logical Networks versus Physical Networks
  - (iii) Identifying Main Types of Physical Topologies
  - (iv) Explaining Bus Topology
  - (v) Explaining Ring Topology
  - (vi) Explaining Star Topology
  - (vii) Explaining Mesh Topology
  
- (l) Introduction to Computer Cabling System
  - (i) Overview of Cabling in Computer Network
  - (ii) Understanding Different Cabling Types
  
- (m) UTP Cabling
  - (i) UTP Cable Construction
  - (ii) Selecting Stranded/Solid UTP Cabling
  - (iii) Choosing Connector Hoods
  - (iv) Selecting for Plenum Sheathing
  - (v) Identifying Connector Pinouts
  - (vi) Explaining Crossover Cabling
  - (vii) Selecting for Cable Colours
  
- (n) Installing and Configuring Network Components
  - (i) Introduction
  - (ii) Installing a Client
  - (iii) Installing a Protocol
  - (iv) Configuring the TCP/IP Protocol
  - (v) Installing a Service
  - (vi) Changing the Computer Name, Workgroup, or Domain
  
- (p) Configuring Network Setup in Windows 7

- (i) Static IPv4 Configuration in Windows 7
- (ii) HomeGroup Configuration in Windows 7
- (q) Checking Your Network Connection
  - (i) Introduction
  - (ii) Checking Your TCP/IP Address
  - (iii) Testing Your TCP/IP Connection
  - (iv) Viewing LAN Resources with the net Command
  - (v) Viewing LAN Usage
- (r) Troubleshooting Your Network

## 5. **Session 21-24: Internet Fundamentals**

- (a) What Is the Internet?
- (b) Introduction to Browser
  - (i) What is an Internet Browser?
  - (ii) What is Web Site?
  - (iii) What is a Web Page?
  - (iv) What is a Home Page?
- (c) Working with Browser
  - (i) Getting Connected to Internet
  - (ii) Exploring Browser Components
- (d) Searching the Web
  - (i) Searching the Internet
  - (ii) Google Search Basics: Basic Search Help
- (e) Bookmarking Your Web Pages
  - (i) What is a Bookmark?
  - (ii) Working with Favorites in IE7
  - (iii) Using Links
  - (iv) Using History
  - (v) Accessing Help in Internet Explorer 7
- (f) Adding Search Providers to the Search Toolbar
  - (i) Introduction
  - (ii) Adding Search Providers to the Search Toolbar
  - (iii) Adding Custom Search Providers to the Search Toolbar
- (g) Configuring AutoComplete Feature
- (h) Configuring Web Browser
  - (i) Changing the Home Page
  - (ii) Displaying Menu Bar
  - (iii) Changing Proxy Server Settings
  - (iv) Deleting Cookies and Temporary Internet Files
  - (v) Updating IE7
- (j) Emailing Using Outlook Express

- (i) Getting Introduced to Email Concepts
  - (ii) Working with Outlook Express
- (k) Mailing with Web-Based E-mail Services
- (i) Why Have a Free Web-Based E-Mail Account?
  - (ii) Looking at Some Web-Based E-Mail Services
- (l) Manipulating Web Information
- (i) Working Offline
  - (ii) Mailing Web Content
  - (iii) Printing Web Content
  - (iv) Saving an Image from the Web
- (m) Downloading Files
- (i) Introduction
  - (ii) Introduction to FTP Sites
  - (iii) Downloading Files from FTP Sites
6. **Session 25-26: Getting Started with Microsoft Office 2010**
- (a) Introducing Microsoft Office 2010 (MS Office 2010)
- (i) What is MS Office?
  - (ii) Exploring the Different Editions of the Office 2010 Suite
  - (iii) Meeting the Office 2010 Core Programs
  - (iv) Exploring Other Office 2010 Applications
  - (v) Starting a MS Office 2010 Application
  - (vi) Closing an Application
- (b) Familiarizing with New Features in Office 2010
- (i) Introducing the New Features in Office 2010
  - (ii) Discussing Office-wide Changes
  - (iii) Discussing Application Changes
- (c) Learning Common Tools Across the Office Suite
- (i) Using the Ribbon
  - (ii) Using the Quick Access Toolbar
  - (iii) Using Backstage
  - (iv) Printing
  - (v) Getting Help
7. **Session 27-36: Working with Documents in MS Word 2010**
- (a) Getting Started with Word 2010
- (i) The Word Interface
  - (ii) Working in Different Views
- (b) Handling Document Files
- (i) Creating a New Blank Document
  - (ii) Opening an Existing Document
  - (iii) Entering Text
  - (iv) Navigating in the Document Area
  - (v) Saving the Document

- (c) Editing Text
  - (i) Inserting Additional Text
  - (ii) Inserting Text by Replacing Existing Text
  - (iii) Switching between Insert and Overtyping Modes
  - (iv) Deleting Text
  - (v) Undoing Changes
  - (vi) Selecting Text
  - (vii) Cutting and Pasting (Moving) Data
  - (viii) Copying and Pasting Data
  - (ix) Copying Blocks of Text
  - (x) Starting a New Paragraph
  - (xi) Inserting a Line Break
  - (xii) Finding and Replacing Text
  
- (d) Proofing Documents
  - (i) Introducing the Proofing Tools
  - (ii) Checking Spelling on Fly
  - (iii) Checking for Grammatical Errors
  - (iv) Checking Spelling and Grammar – The Old Fashioned Way
  - (v) Using the AutoCorrect Feature
  - (vi) Disabling Automatic Grammar and Spell Checking
  - (vii) Using Word’s Thesaurus and Dictionary
  
- (e) Formatting Text
  - (i) Understanding Text Formatting
  - (ii) Changing the Font
  - (iii) Changing the Font Size
  - (iv) Changing the Font Color
  - (v) Highlighting Text
  - (vi) Using the Bold, Italic, and Underline Commands
  - (vii) Changing the Text Case
  
- (f) Formatting Paragraphs
  - (i) Understanding Paragraph Formatting
  - (ii) Changing Text Alignment
  - (iii) Using Indents and Tabs
  - (iv) Modifying Line and Paragraph Spacing
  - (v) Working with Lists
  
- (g) Working with Tables
  - (i) Understanding Tables
  - (ii) Inserting a Blank Table
  - (iii) Converting Existing Text to a Table
  - (iv) Adding a Row Above an Existing Row
  - (v) Adding a Column
  - (vi) Deleting a Row or Column
  - (vii) Formatting a Table in Word 2010
  
- (h) Applying Border and Shading
  - (i) Understanding Border and Shading in Word 2010

- (ii) Adding Borders to Text
  - (iii) Adding Borders to Page
  - (iv) Adding Shades To Text
- (j) Printing Documents
    - (i) Printing
    - (ii) Performing Quick Print
  - (k) Using Mail Merge

## 8. **Session 37-44: Number Crunching in MS Excel 2010**

- (a) Introducing Excel
- (b) Getting Started with Excel 2010
  - (i) Starting Excel 2010
  - (ii) Identifying Main Components of Excel User Interface
  - (iii) Learning Excel Terminology
  - (iv) Creating a New, Blank Workbook
  - (v) Open an Existing Workbook
  - (vi) Saving a Workbook
  - (vii) Saving a Workbook in a Different Format
  - (viii) Closing Excel
- (c) Performing Basic Cell Operations
  - (i) Understanding Cell Basics
  - (ii) Selecting a Cell
  - (iii) Selecting Multiple Cells
  - (iv) Entering Cell Data
  - (v) Deleting Data or Cells
  - (vi) Copying and Pasting Data
  - (vii) Moving Data
  - (viii) Dragging and Dropping Data
  - (ix) Extend a Series with AutoFill
  - (x) Inserting Rows and Columns
  - (xi) Inserting Cells
  - (xii) Deleting Cells
  - (xiii) Deleting Rows and Columns
- (d) Formatting Cells
  - (i) Understanding Cell Formatting
  - (ii) Formatting Text
  - (iii) Formatting Numbers
  - (iv) Formatting Dates
- (e) Creating Formulas
  - (i) Getting Introduced to Formulas in Excel
  - (ii) Writing a Simple Formula
  - (iii) Illustrating a Bit Complex Formula
- (f) Working with Cell Ranges and Names

- (i) Using Cell Range
  - (ii) Working with Range Names
  - (iii) Using the Range Name
  - (iv) Managing the Range Name
- (g) Discussing the Use of Cell References in Formulas
- (h) Editing Formulas
- (j) Copying Formula Using AutoFill and Paste Special
- (i) Copying Formula Using AutoFill
  - (ii) Copying Formula Using Paste Special
- (k) Using Excel's Functions
- (i) Understanding Function
  - (ii) Entering Functions
  - (iii) Working with Various Excel Functions
- (l) Sorting and Filtering Data
- (i) Sorting Data
  - (ii) Filtering Data
- (m) Working with Charts
- (i) Understanding Excel Charts
  - (ii) Creating a Chart
  - (iii) Editing a Chart
  - (iv) Using the Chart Tools
- (n) Using Sparklines
- (i) Introducing Sparklines
  - (ii) Creating Sparklines
  - (iii) Customizing a Sparkline
  - (iv) Deleting a Sparkline
- (p) Printing in Excel 2010

**9. Session 45-48: Working with Presentation Slides in MS PowerPoint 2010**

- (a) Getting Started with PowerPoint 2010
- (i) What is PowerPoint?
  - (ii) Creating and Opening Presentations
- (b) Working with Slides
- (i) Understanding the Concept of Slides
  - (ii) Customizing Slide Layouts
  - (iii) Working with Slides
  - (iv) Managing Slides and Presentation
  - (v) Adding Notes to Slides
- (c) Working with Text in PowerPoint 2010
- (i) Adding and Editing Slide Text

- (ii) Managing Textboxes
  - (iii) Modifying Text
- (d) Creating Transitions and Animation Effects
- (e) Presenting a Slide Show
  - (i) Setting Up the Slide Show
  - (ii) Rehearsing a Slide Show
  - (iii) Running a Slide Show
- (f) Printing in PowerPoint 2010
  - (i) Printing Presentation Slides
  - (ii) Performing Quick Print
  - (iii) Printing Handouts
  - (iv) Printing Speaker Notes

**Cyber Security and Ethical Hacking****Time Duration – 96 Hours****Number of Sessions - 48****(Each Session is of 2 Hrs Duration)**

1. **Session 1-4: Security Fundamentals**
  - (a) Computer Security Basics
  - (b) Brief History of Computer Security
  - (c) Type of Attacks
  - (d) Introducing Cyber Security
  - (e) How Hackers Get In
  - (f) Ways to Secure Your System
  - (g) Choosing and Protecting Passwords
  - (h) Understanding Antivirus Software
  - (j) Coordinating Virus and Spyware Defense
  - (k) Understanding Firewalls
  - (l) Debunking Some Common Myths
  - (m) Good Security Habits
  - (n) Safeguarding Your Data
  - (p) Real-World Warnings Keep You Safe Online
  - (q) Keeping Children Safe Online
  
2. **Session 5-14: Understanding Fundamentals of Ethical Hacking**
  - (a) Introduction to Ethical Hacking
  - (b) Foot printing
  - (c) Scanning
  - (d) Enumeration
  - (e) System Hacking
  - (f) Trojans and Backdoors
  - (g) Sniffers
  - (h) Denial of Service
  - (j) Social Engineering
  - (k) Session Hijacking
  - (l) Hacking Web Servers
  
3. **Session 15-28: Delving Further into Ethical Hacking**
  - (a) Web Application Vulnerabilities
  - (b) Web Based Password Cracking Techniques
  - (c) SQL Injection
  - (d) Hacking Wireless Networks
  - (e) Worms and Viruses
  - (f) Physical Security
  - (g) Evading Firewalls, IDS and Honeypots
  - (h) Buffer Overflows
  - (j) Penetration Testing
  - (k) Covert Hacking



4. **Session 29-34: Introduction to Cyber Security**
  - (a) Why is Cyber Security a Problem?
  - (b) Guidelines for Publishing Information Online
  - (c) Understanding ISPs
  - (d) Dealing with Cyberbullies
  - (e) Dealing with Corrupted Software Files
  - (f) Protecting from Rootkits and Botnets
  - (g) Preventing and Responding to Identity Theft
  - (h) Recovering from Viruses, Worms, and Trojan Horses
  - (j) Recognizing and Avoiding Spyware
  - (k) Avoiding Social Engineering and Phishing Attacks
  - (l) Preventing from Denial-of-Service Attacks
  - (m) Safeguarding from Chain Letters
  - (n) Avoiding the Pitfalls of Online Trading
  
5. **Session 35-38: E-Mail Security Basics**
  - (a) Understanding Email Clients
  - (b) Understanding the E-mail Risk
  - (c) Working Cautiously with Email Attachments
  - (d) Reducing Spam
  - (e) Benefits and Risks of Free Email Services
  - (f) Benefits of BCC
  - (g) Understanding Digital Signatures
  - (h) Using Instant Messaging and Chat Rooms Safely
  - (j) Staying Safe on Social Network Sites
  
6. **Session 39-42: Mobile Device Security**
  - (a) Protecting Portable Devices: Physical Security
  - (b) Protecting Portable Devices: Data Security
  - (c) Protecting Your USB Drives
  - (d) Securing Wireless Networks
  - (e) Cybersecurity for Electronic Devices
  - (f) Defending Cell Phones and PDAs Against Attack
  
7. **Session 43: Safeguard Your Personal Data**
  - (a) How Anonymous Are You?
  - (b) Protecting Your Privacy
  - (c) Understanding Encryption
  - (d) Effectively Erasing Files
  - (e) Supplementing Passwords
  
8. **Session 44-46: Safe Browsing**
  - (a) Understanding Your Computer: Web Browsers
  - (b) Evaluating Your Web Browser's Security Settings
  - (c) Shopping Safely Online
  - (d) Understanding Active Content and Cookies
  - (e) Understanding Web Site Certificates
  - (f) Understanding Internationalized Domain Names
  - (g) Securing Bluetooth Wireless Technology
  - (h) Avoiding Copyright Infringement

- (j) Protecting Your Online Privacy

9. **Session 47-48: Software and Application Security**

- (a) Using Patches
- (b) Risks of File-Sharing Technology
- (c) Reviewing End-User License Agreements
- (d) Operating System – A Brief Introduction

**Oracle 11g Development and Database Administration****Time Duration – 192 Hours**  
**96****Number of Sessions -****(Each Session is of 2 Hrs Duration)****Part1: Oracle 11g Database Development**

1. **Session 1: Introduction to Oracle Database**
  - (a) List the features of Oracle Database 11g
  - (b) Discuss the basic design, theoretical, and physical aspects of a relational database
  - (c) Categorize the different types of SQL statements
  - (d) Describe the data set used by the course
  - (e) Log on to the database using SQL Developer environment
  - (f) Save queries to files and use script files in SQL Developer
  - (g) Lab Practice
  
2. **Session 2-3: Retrieve Data using the SQL SELECT Statement**
  - (a) List the capabilities of SQL SELECT statements
  - (b) Generate a report of data from the output of a basic SELECT statement
  - (c) Select All Columns
  - (d) Select Specific Columns
  - (e) Use Column Heading Defaults
  - (f) Use Arithmetic Operators
  - (g) Understand Operator Precedence
  - (h) Learn the DESCRIBE command to display the table structure
  - (j) Lab Practice
  
3. **Session 4: Learn to Restrict and Sort Data**
  - (a) Write queries that contain a WHERE clause to limit the output retrieved
  - (b) List the comparison operators and logical operators that are used in a WHERE clause
  - (c) Describe the rules of precedence for comparison and logical operators
  - (d) Use character string literals in the WHERE clause
  - (e) Write queries that contain an ORDER BY clause to sort the output of a SELECT statement
  - (f) Sort output in descending and ascending order
  - (g) Lab Practice
  
4. **Session 5: Usage of Single-Row Functions to Customize Output**
  - (a) Describe the differences between single row and multiple row functions
  - (b) Manipulate strings with character function in the SELECT and WHERE clauses
  - (c) Manipulate numbers with the ROUND, TRUNC, and MOD functions
  - (d) Perform arithmetic with date data

- (e) Manipulate dates with the DATE functions
  - (f) Lab Practice
5. **Session 6-7: Invoke Conversion Functions and Conditional Expressions**
- (a) Describe implicit and explicit data type conversion
  - (b) Use the TO\_CHAR, TO\_NUMBER, and TO\_DATE conversion functions
  - (c) Nest multiple functions
  - (d) Apply the NVL, NULLIF, and COALESCE functions to data
  - (e) Use conditional IF THEN ELSE logic in a SELECT statement
  - (f) Lab Practice
6. **Session 8: Aggregate Data Using the Group Functions**
- (a) Use the aggregation functions to produce meaningful reports
  - (b) Divide the retrieved data in groups by using the GROUP BY clause
  - (c) Exclude groups of data by using the HAVING clause
  - (d) Lab Practice
7. **Session 9: Display Data From Multiple Tables Using Joins**
- (a) Write SELECT statements to access data from more than one table
  - (b) View data that generally does not meet a join condition by using outer joins
  - (c) Join a table to itself by using a self join
  - (d) Lab Practice
8. **Session 10: Use Simple Sub-queries to Solve Queries**
- (a) Describe the types of problem that sub-queries can solve
  - (b) Define sub-queries
  - (c) List the types of sub-queries
  - (d) Write single-row and multiple-row sub-queries
  - (e) Lab Practice
9. **Session 11: The SET Operators**
- (a) Describe the SET operators
  - (b) Use a SET operator to combine multiple queries into a single query
  - (c) Control the order of rows returned
  - (d) Lab Practice
10. **Session 12-13: Data Manipulation Statements**
- (a) Describe each DML statement
  - (b) Insert rows into a table
  - (c) Change rows in a table by the UPDATE statement
  - (d) Delete rows from a table with the DELETE statement
  - (e) Save and discard changes with the COMMIT and ROLLBACK statements
  - (f) Explain read consistency
  - (g) Lab Practice
11. **Session 14: Use of DDL Statements to Create and Manage Tables**
- (a) Categorize the main database objects

- (b) Review the table structure
  - (c) List the data types available for columns
  - (d) Create a simple table
  - (e) Decipher how constraints can be created at table creation
  - (f) Describe how schema objects work
  - (g) Lab Practice
12. **Session 15-16: Other Schema Objects**
- (a) Create a simple and complex view
  - (b) Retrieve data from views
  - (c) Create, maintain, and use sequences
  - (d) Create and maintain indexes
  - (e) Create private and public synonyms
  - (f) Lab Practice
13. **Session 17-18: Control User Access**
- (a) Differentiate system privileges from object privileges
  - (b) Create Users
  - (c) Grant System Privileges
  - (d) Create and Grant Privileges to a Role
  - (e) Change Your Password
  - (f) Grant Object Privileges
  - (g) How to pass on privileges?
  - (h) Revoke Object Privileges
  - (j) Lab Practice
14. **Session 19-20: Management of Schema Objects**
- (a) Add, Modify, and Drop a Column
  - (b) Add, Drop, and Defer a Constraint
  - (c) How to enable and Disable a Constraint?
  - (d) Create and Remove Indexes
  - (e) Create a Function-Based Index
  - (f) Perform Flashback Operations
  - (g) Create an External Table by Using ORACLE\_LOADER and by Using ORACLE\_DATAPUMP
  - (h) Query External Tables
  - (j) Lab Practice
15. **Session 21: Manage Objects with Data Dictionary Views**
- (a) Explain the data dictionary
  - (b) Use the Dictionary Views
  - (c) USER\_OBJECTS and ALL\_OBJECTS Views
  - (d) Table and Column Information
  - (e) Query the dictionary views for constraint information
  - (f) Query the dictionary views for view, sequence, index and synonym information
  - (g) Add a comment to a table
  - (h) Query the dictionary views for comment information
  - (j) Lab Practice

16. **Session 22-23: Manipulate Large Data Sets**
- (a) Use Subqueries to Manipulate Data
  - (b) Retrieve Data Using a Subquery as Source
  - (c) Insert Using a Subquery as a Target
  - (d) Usage of the WITH CHECK OPTION Keyword on DML Statements
  - (e) List the types of Multitable INSERT Statements
  - (f) Use Multitable INSERT Statements
  - (g) Merge rows in a table
  - (h) Track Changes in Data over a period of time
  - (j) Lab Practice
17. **Session 24: Data Management in different Time Zones**
- (a) Time Zones
  - (b) CURRENT\_DATE, CURRENT\_TIMESTAMP, and LOCALTIMESTAMP
  - (c) Compare Date and Time in a Session's Time Zone
  - (d) DBTIMEZONE and SESSIONTIMEZONE
  - (e) Difference between DATE and TIMESTAMP
  - (f) INTERVAL Data Types
  - (g) Use EXTRACT, TZ\_OFFSET and FROM\_TZ
  - (h) Invoke TO\_TIMESTAMP, TO\_YMINTERVAL and TO\_DSINTERVAL
  - (j) Lab Practice
18. **Session 25-26: Retrieve Data Using Sub-queries**
- (a) Multiple-Column Subqueries
  - (b) Pairwise and Nonpairwise Comparison
  - (c) Scalar Subquery Expressions
  - (d) Solve problems with Correlated Subqueries
  - (e) Update and Delete Rows Using Correlated Subqueries
  - (f) The EXISTS and NOT EXISTS operators
  - (g) Invoke the WITH clause
  - (h) The Recursive WITH clause
  - (j) Lab Practice
19. **Session 27-28: Regular Expression Support**
- (a) Use the Regular Expressions Functions and Conditions in SQL
  - (b) Use Meta Characters with Regular Expressions
  - (c) Perform a Basic Search using the REGEXP\_LIKE function
  - (d) Find patterns using the REGEXP\_INSTR function
  - (e) Extract Substrings using the REGEXP\_SUBSTR function
  - (f) Replace Patterns Using the REGEXP\_REPLACE function
  - (g) Usage of Sub-Expressions with Regular Expression Support
  - (h) Implement the REGEXP\_COUNT function
  - (j) Lab Practice
20. **Session 29: Introduction to PL/SQL**
- (a) Overview of PL/SQL
  - (b) Identify the benefits of PL/SQL Subprograms
  - (c) Overview of the types of PL/SQL blocks
  - (d) Create a Simple Anonymous Block
  - (e) How to generate output from a PL/SQL Block?

- (f) Lab Practice
21. **Session 30: Declare PL/SQL Identifiers**
- (a) List the different Types of Identifiers in a PL/SQL subprogram
  - (b) Usage of the Declarative Section to Define Identifiers
  - (c) Use variables to store data
  - (d) Identify Scalar Data Types
  - (e) The %TYPE Attribute
  - (f) What are Bind Variables?
  - (g) Sequences in PL/SQL Expressions
  - (h) Lab Practice
22. **Session 31: Write Executable Statements**
- (a) Describe Basic PL/SQL Block Syntax Guidelines
  - (b) Learn to Comment the Code
  - (c) Deployment of SQL Functions in PL/SQL
  - (d) How to convert Data Types?
  - (e) Describe Nested Blocks
  - (f) Identify the Operators in PL/SQL
  - (g) Lab Practice
23. **Session 32: Interaction with the Oracle Server**
- (a) Invoke SELECT Statements in PL/SQL
  - (b) Retrieve Data in PL/SQL
  - (c) SQL Cursor concept
  - (d) Avoid Errors by using Naming Conventions when using Retrieval and DML Statements
  - (e) Data Manipulation in the Server using PL/SQL
  - (f) Understand the SQL Cursor concept
  - (g) Use SQL Cursor Attributes to Obtain Feedback on DML
  - (h) Save and Discard Transactions
  - (i) Lab Practice
24. **Session 33: Control Structures**
- (a) Conditional processing using IF Statements
  - (b) Conditional processing using CASE Statements
  - (c) Describe simple Loop Statement
  - (d) Describe While Loop Statement
  - (e) Describe For Loop Statement
  - (f) Use the Continue Statement
  - (g) Lab Practice
25. **Session 34: Composite Data Types**
- (a) Use PL/SQL Records
  - (b) The %ROWTYPE Attribute
  - (c) Insert and Update with PL/SQL Records
  - (d) INDEX BY Tables
  - (e) Examine INDEX BY Table Methods
  - (f) Use INDEX BY Table of Records

- (g) Lab Practice
26. **Session 35-36: Explicit Cursors**
- (a) What are Explicit Cursors?
  - (b) Declare the Cursor
  - (c) Open the Cursor
  - (d) Fetch data from the Cursor
  - (e) Close the Cursor
  - (f) Cursor FOR loop
  - (g) The %NOTFOUND and %ROWCOUNT Attributes
  - (h) Describe the FOR UPDATE Clause and WHERE CURRENT Clause
  - (i) Lab Practice
27. **Session 37-38: Exception Handling**
- (a) Understand Exceptions
  - (b) Handle Exceptions with PL/SQL
  - (c) Trap Predefined Oracle Server Errors
  - (d) Trap Non-Predefined Oracle Server Errors
  - (e) Trap User-Defined Exceptions
  - (f) Propagate Exceptions
  - (g) RAISE\_APPLICATION\_ERROR Procedure
  - (h) Lab Practice
28. **Session 39-40: Stored Procedures**
- (a) Create a Modularized and Layered Subprogram Design
  - (b) Modularize Development With PL/SQL Blocks
  - (c) Understand the PL/SQL Execution Environment
  - (d) List the benefits of using PL/SQL Subprograms
  - (e) List the differences between Anonymous Blocks and Subprograms
  - (f) Create, Call, and Remove Stored Procedures
  - (g) Implement Procedures Parameters and Parameters Modes
  - (h) View Procedure Information
  - (i) Lab Practice
29. **Session 41-42: Stored Functions and Debugging Subprograms**
- (a) Create, Call, and Remove a Stored Function
  - (b) Identify the advantages of using Stored Functions
  - (c) Identify the steps to create a stored function
  - (d) Invoke User-Defined Functions in SQL Statements
  - (e) Restrictions when calling Functions
  - (f) Control side effects when calling Functions
  - (g) View Functions Information
  - (h) How to debug Functions and Procedures?
  - (i) Lab Practice
30. **Session 43-44: Packages**
- (a) Listing the advantages of Packages
  - (b) Describe Packages
  - (c) What are the components of a Package?
  - (d) Develop a Package
  - (e) How to enable visibility of a Package's Components?



- (f) Create the Package Specification and Body using the SQL CREATE Statement and SQL Developer
- (g) Invoke the Package Constructs
- (h) View the PL/SQL Source Code using the Data Dictionary
- (i) Lab Practice

31. **Session 45: Deploying Packages**

- (a) Overloading Subprograms in PL/SQL
- (b) Use the STANDARD Package
- (c) Use Forward Declarations to solve Illegal Procedure Reference
- (d) Implement Package Functions in SQL and Restrictions
- (e) Persistent State of Packages
- (f) Persistent State of a Package Cursor
- (g) Control side effects of PL/SQL Subprograms
- (h) Invoke PL/SQL Tables of Records in Packages
- (i) Lab Practice

32. **Session 46: Implement Oracle-Supplied Packages in Application Development**

- (a) What are Oracle-Supplied Packages?
- (b) Examples of some of the Oracle-Supplied Packages
- (c) How does the DBMS\_OUTPUT Package work?
- (d) Use the UTL\_FILE Package to Interact with Operating System Files
- (e) Invoke the UTL\_MAIL Package
- (f) Write UTL\_MAIL Subprograms
- (g) Lab Practice

33. **Session 47-48: Triggers**

- (a) Describe Triggers
- (b) Identify the Trigger Event Types and Body
- (c) Business Application Scenarios for Implementing Triggers
- (d) Create DML Triggers using the CREATE TRIGGER Statement and SQL Developer
- (e) Identify the Trigger Event Types, Body, and Firing (Timing)
- (f) Differences between Statement Level Triggers and Row Level Triggers
- (g) Create Instead of and Disabled Triggers
- (h) How to Manage, Test and Remove Triggers? Create Triggers on DDL Statements
- (i) System Privileges Required to Manage Triggers
- (j) Lab Practice

**Part 2: Oracle 11g Database Administration**

34. **Session 49-50: Exploring the Oracle Database Architecture**

- (a) Oracle Database Architecture Overview
- (b) Oracle ASM Architecture Overview
- (c) Process Architecture
- (d) Memory structures
- (e) Logical and physical storage structures

- (f) ASM storage components
  - (g) Lab Practices
35. **Session 51-52: Installing your Oracle Software**
- (a) Tasks of an Oracle Database Administrator
  - (b) Tools Used to Administer an Oracle Database
  - (c) Installation: System Requirements
  - (d) Oracle Universal Installer (OUI)
  - (e) Installing Oracle Grid Infrastructure
  - (f) Installing Oracle Database Software
  - (g) Silent Install
  - (h) Lab Practices
36. **Session 53-55: Creating an Oracle Database**
- (a) Planning the Database
  - (b) Using the DBCA to Create a Database
  - (c) Password Management
  - (d) Creating a Database Design Template
  - (e) Using the DBCA to Delete a Database
  - (f) Lab Practices
37. **Session 56-57: Managing the Oracle Database Instance**
- (a) Start and stop the Oracle database and components
  - (b) Use Oracle Enterprise Manager
  - (c) Access a database with SQLPlus
  - (d) Modify database installation parameters
  - (e) Describe the stages of database startup
  - (f) Describe database shutdown options
  - (g) View the alert log
  - (h) Access dynamic performance views
  - (i) Lab Practices
38. **Session 58: Manage the ASM Instance**
- (a) Set up initialization parameter files for ASM instance
  - (b) Start up and shut down ASM instances
  - (c) Administer ASM disk groups
  - (d) Lab Practices
39. **Session 59-60: Configuring the Oracle Network Environment**
- (a) Use Enterprise Manager to create and configure the Listener
  - (b) Enable Oracle Restart to monitor the listener
  - (c) Use tnsping to test Oracle Net connectivity
  - (d) Identify when to use shared servers and when to use dedicated servers
  - (e) Lab Practices
40. **Session 61-63: Managing Database Storage Structures**
- (a) Storage Structures
  - (b) How Table Data Is Stored
  - (c) Anatomy of a Database Block
  - (d) Space Management in Tablespaces

- (e) Tablespaces in the Preconfigured Database
  - (f) Actions with Tablespaces
  - (g) Oracle Managed Files (OMF)
  - (h) Practices
41. **Session 64-68: Administering User Security**
- (a) Database User Accounts
  - (b) Predefined Administrative Accounts
  - (c) Benefits of Roles
  - (d) Predefined Roles
  - (e) Implementing Profiles
  - (f) Lab Practices
42. **Session 69-70: Managing Data Concurrency**
- (a) Data Concurrency
  - (b) Enqueue Mechanism
  - (c) Resolving Lock Conflicts
  - (d) Deadlocks
  - (e) Lab Practices
43. **Session 71-72: Managing Undo Data**
- (a) Data Manipulation
  - (b) Transactions and Undo Data
  - (c) Undo Data Versus Redo Data
  - (d) Configuring Undo Retention
  - (e) Lab Practices
44. **Session 73-74: Implementing Oracle Database Auditing**
- (a) Describe DBA responsibilities for security
  - (b) Enable standard database auditing
  - (c) Specify audit options
  - (d) Review audit information
  - (e) Maintain the audit trail
  - (f) Lab Practices
45. **Session 75-78: Database Maintenance**
- (a) Manage optimizer statistics
  - (b) Manage the Automatic Workload Repository (AWR)
  - (c) Use the Automatic Database Diagnostic Monitor (ADDM)
  - (d) Describe and use the advisory framework
  - (e) Set alert thresholds
  - (f) Use server-generated alerts
  - (g) Use automated tasks
  - (h) Lab Practices
46. **Session 79-82: Performance Management**
- (a) Performance Monitoring
  - (b) Managing Memory Components
  - (c) Enabling Automatic Memory Management (AMM)
  - (d) Automatic Shared Memory Advisor

- (e) Using Memory Advisors
  - (f) Dynamic Performance Statistics
  - (g) Troubleshooting and Tuning Views
  - (h) Invalid and Unusable Objects
  - (i) Lab Practices
47. **Session 83-85: Backup and Recovery Concepts**
- (a) Statement Failure
  - (b) User Error
  - (c) Understanding Instance Recovery
  - (d) Phases of Instance Recovery
  - (e) Using the MTTR Advisor
  - (f) Media Failure
  - (g) Archive Log Files
  - (h) Lab Practices
48. **Session 86-88: Performing Database Backups**
- (a) Backup Solutions: Overview
  - (b) Oracle Secure Backup
  - (c) User-Managed Backup
  - (d) Terminology
  - (e) Recovery Manager (RMAN)
  - (f) Configuring Backup Settings
  - (g) Backing Up the Control File to a Trace File
  - (h) Monitoring the Flash Recovery Area
  - (i) Lab Practices
49. **Session 89-91: Performing Database Recovery**
- (a) Opening a Database
  - (b) Data Recovery Advisor
  - (c) Loss of a Control File
  - (d) Loss of a Redo Log File
  - (e) Data Recovery Advisor
  - (f) Data Failures
  - (g) Listing Data Failures
  - (h) Data Recovery Advisor Views
  - (i) Lab Practices
50. **Session 92-94: Moving Data**
- (a) Describe ways to move data
  - (b) Create and use directory objects
  - (c) Use SQL\*Loader to move data
  - (d) Use external tables to move data
  - (e) General architecture of Oracle Data Pump
  - (f) Use Data Pump export and import to move data
  - (g) Lab Practices
51. **Session 95-96: Working with Support**
- (a) Use the Enterprise Manager Support Workbench
  - (b) Work with Oracle Support

- (c) Log service requests (SR)
- (d) Manage patches
- (e) Lab Practices

MS SQL Server 2012 Database Development and AdministrationTime Duration – 144 HoursNo. of Sessions - 72**(Each Session is of 2 Hrs. Duration)****Part 1: Developing MS SQL Server 2012 Databases**

1. **Session 1: Understanding SQL Server Basics**
  - (a) An Overview of Database Objects
  - (b) SQL Server Data Types Overview
  - (c) SQL Server Identifiers for Objects
  - (d) Getting Started with SQL Server Management Studio
  - (e) Lab Practice
  
2. **Session 2: Writing Simple SELECT Queries**
  - (a) Using the SELECT Statement
  - (b) Filtering Data
  - (c) Working with Nothing
  - (d) Sorting Data
  - (e) Lab Practice
  
3. **Session 3: Using Functions and Expressions**
  - (a) Expressions Using Operators
  - (b) Using Functions
  - (c) The TOP Keyword
  - (d) Ranking Functions
  - (e) Lab Practice
  
4. **Session 4-5: Querying Multiple Tables**
  - (a) Understanding Joins
  - (b) Writing Inner Joins
  - (c) Writing Outer Joins
  - (d) Querying with Cross Joins and Self Joins
  - (e) Writing Subqueries
  - (f) Writing UNION Queries
  - (g) Exploring Derived Tables and Common Table Expressions
  - (h) Lab Practice
  
5. **Session 6-7: Grouping and Summarizing Data**
  - (a) Aggregate Functions
  - (b) The GROUP BY Clause
  - (c) The ORDER BY Clause
  - (d) The WHERE Clause
  - (e) The HAVING Clause
  - (f) DISTINCT
  - (g) Aggregate Queries with More Than One Table
  - (h) Isolating Aggregate Query Logic

- (j) GROUPING SETS
  - (k) Lab Practice
6. **Session 8: Working with Set Operators**
- (a) The UNION Operator
  - (b) The INTERSECT Operator
  - (c) The EXCEPT Operator
  - (d) Precedence
  - (e) Handling Unsupported Logical Phases
  - (f) Lab Practice
7. **Session 9-10: Modifying Data in SQL Server**
- (a) Inserting Data
  - (b) Updating Data
  - (c) Deleting Data
  - (d) Merging Data\
  - (e) Returning Modified Data
  - (f) Lab Practice
8. **Session 11: Working with Data Types**
- (a) Using Data Types
  - (b) Working with Character Data
  - (c) Converting Data Types
  - (d) Specialized Data Types
  - (e) Lab Practice
9. **Session 12-13: Designing and Implementing Tables**
- (a) Designing Tables
  - (b) Working with Schemas
  - (c) Object Names in SQL Server
  - (d) The CREATE Statement
  - (e) The ALTER Statement
  - (f) The DROP Statement
  - (g) Using the GUI Tool
  - (h) Lab Practice
10. **Session 14-15: Ensuring Data Integrity through Constraints**
- (a) Types of Constraints
  - (b) Constraint Naming
  - (c) Key Constraints
  - (d) CHECK Constraints
  - (e) DEFAULT Constraints
  - (f) Disabling Constraints
  - (g) Rules and Defaults
  - (h) Lab Practice
11. **Session 16-17: Implementing Indexes in SQL Server 2012**
- (a) Planning for SQL Server 2012 Indexing
  - (b) Implementing Table Structures in SQL Server 2012
  - (c) Reading SQL Server 2012 Execution Plans

- (d) Improving Performance through Nonclustered Indexes
  - (e) Lab Practice
12. **Session 18-19: Going Beyond the Fundamentals of Querying**
- (a) Window Functions
  - (b) Pivoting Data
  - (c) Unpivoting Data
  - (d) Lab Practice
13. **Session 20-21: Building a View**
- (a) Why a View?
  - (b) Creating a View: SQL Server Management Studio
  - (c) Creating a View Using a View
  - (d) Creating a View Using T-SQL Syntax
  - (e) Indexing a View
  - (f) Lab Practice
14. **Session 22-23: Designing and Implementing T-SQL Routines**
- (a) Designing and Implementing Stored Procedures
  - (b) Implementing Triggers
  - (c) Implementing User-Defined Functions
  - (d) Lab Practice
15. **Session 24-25: Implementing Transactions and Error Handling**
- (a) Managing Transactions and Concurrency
  - (b) Implementing Error Handling
  - (c) Lab Practice
16. **Session 26: Merging Data and Passing Tables**
- (a) Using the MERGE Statement
  - (b) Implementing Table Types
  - (c) Using TABLE Types As Parameters
  - (d) Lab Practice
17. **Session 27: Implementing Managed Code in SQL Server 2012**
- (a) Introduction to SQL CLR Integration
  - (b) Importing and Configuring Assemblies
  - (c) Implementing SQL CLR Integration
  - (d) Lab Practice
18. **Session 28-29: Managing and Querying Advanced Data Types**
- (a) Storing XML Data in SQL Server 2012
  - (b) Querying XML Data in SQL Server 2012
  - (c) Working with SQL Server 2012 Spatial Data
  - (d) Lab Practice
19. **Session 30: Implementing Full-Text Search**
- (a) Full Text Search Architecture
  - (b) Creating Full-Text Catalogs and Indexes
  - (c) Full-Text Querying



- (d) Thesauruses and Stoplists
- (e) Lab Practice

## Part 2: Administering MS SQL Server 2012 Databases

### 20. **Session 31: Knowing About SQL Server 2012 Toolsets**

- (a) Getting Help with Books Online
- (b) SQL Server Configuration Manager
- (c) SQL Server Management Studio
- (d) SQL Server Data Tools (formerly BIDS)
- (e) SQL Server Integration Services (SSIS)
- (f) SQL Server Reporting Services (SSRS)
- (g) SQL Server Analysis Services (SSAS)
- (h) Bulk Copy Program (BCP)
- (j) SQL Server Profiler
- (k) Sqlcmd
- (l) PowerShell
- (m) Lab Practice

### 21. **Session 32-33: Installing SQL Server 2012**

- (a) Planning the System
- (b) Installing SQL Server
- (c) Installing Analysis Services
- (d) Installing PowerPivot for SharePoint
- (e) Burning in the System
- (f) Post-Install Configuration
- (g) Uninstalling SQL Server
- (h) Troubleshooting a Failed Install
- (j) Lab Practice

### 22. **Session 34: Upgrading SQL Server 2012**

- (a) Why Upgrade to SQL Server 2012?
- (b) Upgrading to SQL Server 2012
- (c) Pre-Upgrade Steps and Tools
- (d) Backward Compatibility
- (e) SQL Server Component Considerations
- (f) Post-Upgrade Checks
- (g) Lab Practice

### 23. **Session 35-36: Configuring SQL Server Services**

- (a) Use SQL Server Configuration Manager.
- (b) Use SQL Server Services.
- (c) Use Network Ports and Listeners
- (d) Create Server Aliases
- (e) Use Other SQL Server Tools
- (f) Lab Practice

### 24. **Session 37-39: Creating SQL Server Databases**

- (a) SQL Server Databases
- (b) Database Storage

- (c) Database Options and Properties
  - (d) Creating Databases in the GUI
  - (e) Creating Databases with T-SQL
  - (f) Attaching and Detaching Databases
  - (g) Database Snapshots
  - (h) Lab Practice
25. **Session 40: Understanding SQL Server 2012 Recovery Models**
- (a) Backup Strategies
  - (b) Understanding SQL Server Transaction Logging
  - (c) Planning a SQL Server Backup Strategy
  - (d) Lab Practice
26. **Session 41-42: Taking Backup of SQL Server 2012 Databases**
- (a) Backing up Databases and Transaction Logs
  - (b) Managing Database Backups
  - (c) Working with Backup Options
  - (d) Lab Practice
27. **Session 43-44: Restoring SQL Server 2012 Databases**
- (a) Understanding the Restore Process
  - (b) Restoring Databases
  - (c) Working with Point-in-time recovery
  - (d) Restoring System Databases and Individual Files
  - (e) Lab Practice
28. **Session 45: Importing and Exporting Data**
- (a) Transferring Data To/From SQL Server
  - (b) Importing and Exporting Table Data
  - (c) Inserting Data in Bulk
  - (d) Lab Practice
29. **Session 46-48: Implementing Authentication and Encryption**
- (a) Security Defined
  - (b) Security Threats
  - (c) Security Principles
  - (d) Understanding Authentication
  - (e) SQL Server Authentication Methods
  - (f) Logins, Users, and Roles
  - (g) Understanding Encryption
  - (h) Establishing Baselines
  - (j) Implementing Least Privilege
  - (k) Auditing SQL Server Activity
  - (l) Configuring the Surface Area
  - (m) Understanding Common Criteria and C2
  - (n) Lab Practice
30. **Session 49: Auditing SQL Server Environments**
- (a) Options for Auditing Data Access in SQL
  - (b) Implementing SQL Server Audit

- (c) Managing SQL Server Audit
  - (d) Lab Practice
31. **Session 50-51: Automating SQL Server**
- (a) Maintenance Plans
  - (b) Automating SQL Server with SQL Server Agent
  - (c) SQL Server Agent Security
  - (d) Configuring SQL Server Agent
  - (e) Database Mail
  - (f) Multiserver Administration
  - (g) Lab Practice
32. **Session 52-53: Creating Jobs, Operators, and Alerts**
- (a) Standardize, Automate, and Update
  - (b) Understanding SQL Server Jobs
  - (c) Creating T-SQL Jobs
  - (d) Creating SSIS Jobs
  - (e) Creating Windows Command Jobs
  - (f) Creating and Using Operators
  - (g) Creating and Using Alerts
  - (h) Using WSUS for SQL Server 2012
  - (j) Lab Practice
33. **Session 54-55: Acquainting with Database Performance Monitoring and Tuning**
- (a) Performance Tuning Principles
  - (b) Performance and Troubleshooting Tools
  - (c) SQL Server Profiler
  - (d) Database Engine Tuning Advisor
  - (e) Performance Monitoring with System Monitor
  - (f) Using the Resource Governor
  - (g) Performance Studio
  - (h) Advanced Monitoring Tools
  - (j) Lab Practice
34. **Session 56: Understanding Advanced Indexing Concepts and Data Concurrency Issues**
- (a) Implementing and Maintaining Indexes
  - (b) Identifying and Resolving Concurrency Problems
  - (c) Lab Practice
35. **Session 57: Implementing Asynchronous Messaging with Service Broker**
- (a) Configuring a Message Queue
  - (b) Working with Dialogs
  - (c) What's New in Service Broker for SQL Server 2012?
  - (d) Monitoring and Troubleshooting Service Broker
  - (e) Lab Practice
36. **Session 58-59: Configuring Log Shipping**

- (a) Availability Testing
- (b) Warm Standby Availability
- (c) Defining Log Shipping
- (d) Checking Log Shipping Configuration
- (e) Monitoring Log Shipping
- (f) Modifying or Removing Log Shipping
- (g) Switching Roles
- (h) Lab Practice

**37. Session 60: Troubleshooting Common SQL Server 2012 Administrative Issues**

- (a) SQL Server Troubleshooting Methodology
- (b) Resolving Service-related Issues
- (c) Resolving Login and Connectivity Issues
- (d) Lab Practice

**Part 3: Designing Database Solutions in MS SQL Server 2012**

**38. Session 61-62: Designing a Database Server Infrastructure**

- (a) Planning a Database Server Infrastructure
- (b) Planning Server Hardware
- (c) Considerations for Database Server Consolidation
- (d) Managing Server Resources in a Consolidated Database Infrastructure
- (e) Lab Practice

**39. Session 63-65: Designing Logical Schema and Physical Implementation**

- (a) Designing a Logical Database Schema
  - (i) Relational Database Design Techniques
  - (ii) Planning Schemas and Tables
- (b) Designing a Physical Database Implementation
  - (i) Planning Files and Filegroups
  - (ii) Planning a Partitioning Data
  - (iii) Planning Compression
  - (iv) Lab Practice

**40. Session 66: Incorporating Data Files into Databases**

- (a) Considerations for Working with Data Files in SQL Server 2012
- (b) Implementing FileStream and FileTables
- (c) Searching Data Files
- (d) Lab Practice

**41. Session 67: Implementing Policy Based Management**

- (a) Defining Policies
- (b) Evaluating Policies
- (c) Lab Practice

**42. Session 68-69: Monitoring Server Health**

- (a) Introduction to Server Health Monitoring
- (b) SQL Server Utility

(c) Lab Practice

43. **Session 70-72: Managing SQL Server with PowerShell**

- (a) Introduction to Windows PowerShell
- (b) Scripting with Windows PowerShell
- (c) Lab Practice

Linux Administration and SecurityTime Duration – 12 DaysNumber of Sessions - 12**(Each Session is of 2 Hrs. Duration)****1. Session 1-2: Overview of Linux**

- (a) Understanding the User Environment
- (b) RHEL 6 System Overview
- (c) Process Concepts
- (d) The Graphical Environment GUIs (KDE, Gnome)
- (e) Logging Into an RHEL 6 System
- (f) Bash Shell Syntax Rules
- (g) Documentation via man and info
- (h) Command Line Editing
- (j) Basic Network Operations

**2. Session 3-10: Startup and Shutdown**

- (a) Components involved in the Linux boot
- (b) Grub loader stages and configuration
- (c) Default bootstrap
- (d) Boot to single-user mode
- (e) Linux startup methods, tools, and procedures
- (f) Understanding run levels
- (g) The Upstart init mechanism
- (h) Adding procedures to the startup mechanisms
- (j) Shutdown methods and control

**3. Linux Filesystem and Commands**

- (a) Understanding Filesystem Structure
- (b) Working with Basic Commands
- (c) Working with Text Processing Tools
- (d) Using Pipes and Filters
- (e) Working with File Permissions
- (f) Understanding Advanced File Permissions
- (g) Working with vi-Editor
- (h) Using Vim Editor – An Advanced Text Editor

**4. Session 11-15: System Installation and Updating**

- (a) Installation types and methods
- (b) Installing the RHEL 6 operating system
- (c) Maintaining the system via patches
- (d) Managing system software via rpm
- (e) Package Management in Red Hat Enterprise Linux
- (f) Introducing RHEL Package Management
- (g) Working with RPM
- (h) Automatic Updates with yum
- (j) Working with Red Hat Network

5. **Session 16-20:Advanced Installation Methods**
  - (a) Introducing Anaconda
  - (b) Performing Text InstallationAutomating Installation Using Kickstart (FTP,HTTP,NFS supported installation Method)
  - (c) Managing of System Users
  - (d) UID and GID concepts
  - (e) Creation of a user account
  - (f) Security through password aging
  - (g) Controlling access by groups
  
6. **Session 21-23:Managing Disk and Tape Volumes**
  - (a) Commands to manipulate disks/filesystems
  - (b) partitioning disk surfaces with fdisk
  - (c) creating ext2/ext3/ext4 file systems (mkfs)
  - (d) manipulating file system structures
  - (e) verifying file system structures (fsck)
  - (f) making file systems available to software (mount)
  - (g) configuring swap space(s)
  - (h) Disk Management Tool
  - (i) Logical Volume Management (LVM)
  - (j) Using Quotas
  - (k) Working with Partitions
  - (l) Understanding RAID
  - (m) Troubleshooting
  - (n) More Troubleshooting Techniques
  
7. **Session 24-30:Configuring Networks**
  - (a) Networking Troubleshooting Considerations
  - (b) review of networking hardware / software components
  - (c) techniques to manually configure network interfaces
  - (d) software IP configuration / testing using ifconfig
  - (e) testing areas and tools
  - (f) network connectivity
  - (g) server configuration (files)
  
8. **Access networked attached storage with network**
  - (a) Sharing with Network File System (NFS)
  - (b) Access (secure) NFS shares
  - (c) NFS server setup
  - (d) NFS client
  - (e) automounter
  
9. **Configuring File Transfer Protocol (FTP)**
  - (a) Configuration VSFTPD
  - (b) Configure file sharing with anonymous FTP
  - (c) Sharing file with Windows PC with ftp Server
  - (d) Configuring Telnet
  
10. **Session 31-35:Domain Name System (DNS) Server / Client Setup**

- (a) DNS layout and overview
- (b) FQDN (fully qualified domain (host) name)
- (c) DNS server types
- (d) name resolution
- (e) primary name server setup
- (f) secondary and caching-only name server setup
- (g) testing a primary name server
- (h) resolver host setup
- (i) controlling named (via rndc)

**11. Implementing DHCP**

- (a) DHCP
- (b) DHCP client setup
- (c) DHCP server setup

**12. File Sharing with CIFS**

- (a) Configuring Samba
- (b) Configure file and print sharing between hosts with CIFS

**13. Configuring the Apache Web Server**

- (a) web server
- (b) Apache Web Server packages
- (c) configuration files changes
- (d) virtual hosts , secure hosts
- (e) Securing Apache with SSL

**14. Session36- 38:Handling Electronic Mail**

- (a) The Basics of Linux E-Mail
- (b) Setting Up Your Server
- (c) Sending a Message with Mailx
- (d) sendmail / postfix

**15. Session 39-42:Virtualization with KVM**

- (a) What is Virtualization?
- (b) KVM Architecture
- (c) Virtualization Support And Requirements In Red Hat Enterprise Linux 6
- (d) Packages for KVM Virtualization
- (e) Virtual Machine Creation In Red Hat Enterprise Linux 6
- (f) Red Hat Enterprise Linux 6 Xen Configuration And Log Files
- (g) Virtual Machine Management Commands

**16. Session 43:Print and Batch Mechanisms**

- (a) The lp command and options
- (b) The at command and options
- (c) The crontab command and options

**17. Session 44-48:Writing Bash and Korn Shell Scripts**

- (a) Shell Scripts
- (b) The echo Command
- (c) Shell Script Example



- (d) Shell Variables
- (e) Referencing Variables
- (f) Reading a Value into a Variable
- (g) Local and Global Shell Variables

**18. Securing Linux Implementation**

- (a) Introduction to Linux Security
- (b) Hacker versus Cracker
- (c) Understanding Attack Techniques
- (d) Protecting Your Network with Firewalls
- (e) Detecting Intrusions from Log Files
- (f) Configuring LogSentry to Suit Your Needs
- (g) Using Password Protection
- (h) Using a Shadow Password File

**19. Understanding SELinux**

- (a) SELinux Architectural Overview
- (b) Flask Security Architecture and SELinux
- (c) SELinux, an Implementation of Flask
- (d) SELinux Policy Overview

ASP>Net 4.0 with C#Time Duration – 144 HoursNumber of Sessions - 72**(Each Session is of 2 Hrs Duration)****1. Session 1-6: Familiarizing with .NET 4 Framework**

- (a) An Overview of Application Architecture
  - (i) Definition of Application Architecture
  - (ii) Application Architecture Strategy
  - (iii) Application Architecture Patterns
  - (iv) Tasks of an Application Architect
  - (v) Understand Application Suite
  - (vi) Functionality Footprint
  - (vii) Create Solution Architecture Guidelines
- (b) An Overview of .NET Technology
  - (i) Pre .NET Technologies
  - (ii) Defining .NET
- (c) Principle Design Feature of .NET
  - (i) Interoperability
  - (ii) Common Runtime Engine
  - (iii) Language Independence
  - (iv) Base Class Library
  - (v) Simplified Deployment
  - (vi) Portability
- (d) .NET Framework Conceptual Overview
  - (i). NET Framework
  - (ii) The Common Language Runtime
  - (iii) The Common Language Specification - CLS
  - (iv) Explaining the Common Type System
  - (v) Memory Management in .NET Framework
  - (vi) NET Framework Class Library
  - (vii) NET Assembly and Manifest
  - (viii) Explaining Metadata and Attributes
  - (ix) Assembly Versioning – More Indepth Look
- (e) Versions of .NET
  - (i) NET Framework 1.0
  - (ii) NET Framework 1.1
  - (iii) NET Framework 2.0
  - (iv) NET Framework 3.0
  - (v) NET Framework 4.0
- (f) The Challenges of Building Modern Applications
- (g) An Insight View of .NET Framework 3.5
  - (i) Providing Solutions with .NET Framework 3.5
  - (ii) Windows Presentation Foundation: A Unified Approach to Diverse User Interfaces
  - (iii) Windows Communication Foundation: Support for Service-Oriented Applications

- (iv) Windows CardSpace: Consistent User Control of Digital Identities
- (v) Windows Workflow Foundation: Support for Workflow-Based Applications
- (vi) Language-Integrated Query: Consistent Access to Diverse Data
- (vii) ASP.NET AJAX: Support for Responsive Browser Applications
  
- (h) Migrating to .NET Framework 4.0
  - (i) Introducing New Features/Enhancements in .NET Framework 4.0
    - (II) The Dynamic Language Runtime (DLR)
    - (III) Managed Extensibility Framework
    - (IV) Support for Parallel Computing
    - (V) ADO.NET Improvements
    - (VI) Improvements in Windows Communication Foundation
    - (VII) Improvements in Windows Workflow Foundation
- (J) A Quick Tour of Visual Studio 2010
  - (I) Getting Started
  - (II) Startup Options
  - (III) Creating Your First Project
  - (IV) Targeting Your Environment
  - (V) Navigating the IDE

## 2. **Session 7-14: Introduction to C# Programming Language**

- (a) Object-Oriented Programming Concepts
  - (I) Introduction
  - (II) Object-Oriented Programming (OOPS) Advantages
  - (III) Features of Object-Oriented Programming
- (b) Classes and Objects – Conceptual Overview
  - (i) What are Classes and Objects?
  - (ii) What is Encapsulation?
  - (iii) Public, Private, and Protected
  - (iv) Needs of Encapsulation
- (c) Exploring Abstraction
  - (i) Introduction
  - (ii) What Is Abstraction?
  - (iii) Effective Abstraction
- (d) Keeping Your Secrets through Implementation Hiding
  - (i) Introduction
  - (ii) Protecting Your Object Through the Abstract Data Type (ADT)
  - (iii) What Is a Type?
- (e) Inheritance: Getting Something for Nothing
  - (i) What Is Inheritance?
  - (ii) Inheritance Mechanics
- (f) Types of Inheritance
  - (i) Introduction
  - (ii) Inheritance for Implementation
  - (iii) Implementation Inheritance Problems
- (g) Tips to Effective Inheritance
- (h) How Inheritance Fulfills the Goals of OO

- (j) Polymorphism: Learning to Predict the Future
- (k) Introduction to C# Projects
  - (i) Introduction to C# as a Computer Language
  - (ii) Introduction to Computer Projects
  - (iii) Console Applications
  - (iv) Creating a File for Code
  - (v) The Primary C# Code
  - (vi) Comments
  - (vii) Managing Files
  - (viii) Solution and Project Management
- (l) Building a Hello World Program
  - (i) Introduction
  - (ii) Choosing an Editor
  - (iii) Writing Hello World!
  - (iv) Building a Class
  - (v) Beginning with the Main() method
  - (vi) Writing to the Console
  - (vii) Compiling and Running the Program
- (m) Delving Deeper into C# Console Application
  - (i) Creating Console Application using C#
  - (ii) Performing Basic Input and Output Operations
  - (iii) Compiling and Executing Program
- (n) Working with Variables
  - (i) What are Variables?
  - (ii) Common Type System
  - (iii) Naming Variables
  - (iv) C# Keywords
  - (v) Creating Variables
- (p) Working with Expressions and Operators
  - (i) What are Expressions?
  - (ii) What Are Operators?
  - (iii) Common Operators
  - (iv) Compound Assignment
- (q) Creating User-Defined Variables
  - (i) Using Enumerations
  - (ii) Working with Structure Types
- (r) Converting Data Types
  - (i) Introduction to Data Type Conversion in C#
  - (ii) Implicit Data Type Conversion
  - (iii) Explicit Data Type Conversion
- (s) Delving Deeper into C# Operators
  - (i) The Assignment Operator (=)
  - (ii) Arithmetic Operators
  - (iii) Increment and Decrement Operators
  - (iv) Relational Operators
  - (v) Logical Operators
  - (vi) The Conditional Operator
  - (vii) Specifying Operator Precedence
- (t) Controlling Program Flow in C#
  - (i) Introduction to Statements

- (ii) Types of Statements
- (iii) Using Iteration Statements
- (iv) Using Jump Statements
- (u) Basic Method Handling in C#
  - (i) Overview
  - (ii) Defining a Method
  - (iii) Creating Methods
  - (iv) Syntax for Defining Methods
  - (v) Calling Methods
  - (vi) Using Local Variables
- (v) Passing Method Arguments Using Parameters
  - (i) Declaring and Calling Parameters
  - (ii) Mechanisms for Passing Parameters
  - (iii) Pass by Value
  - (iv) Pass by Reference
  - (v) Using Output Parameters
  - (vi) Using Variable-Length Parameter Lists
  - (vii) Guidelines for Passing Parameters
- (w) Some Advanced Concepts of Methods
  - (i) Using Recursive Methods
  - (ii) Using Overloading Methods
- (x) Implementing Encapsulation in C#
  - (i) Encapsulating Data with Properties
  - (ii) The get Accessor
  - (iii) The set Accessor
  - (iv) Automatic Properties
  - (v) Returning Multiple Values
- (y) Working with Static Data
  - (i) Using Static Data
  - (ii) Declaring Static Data
  - (iii) Using Static Methods
- (z) C# and Object Orientation
  - (i) Hello, World Revisited
  - (ii) Defining Simple Classes
  - (iii) Instantiating New Objects
  - (iv) Using the this Operator
  - (v) Creating Nested Classes
  - (vi) Accessing Nested Classes

### 3. Session 15-17: Inheritance and Polymorphism in C#

- (a) Specialization and Generalization
- (b) Inheritance in C#
  - (i) Introduction to Inheritance in C#
  - (ii) Implementing Inheritance
  - (iii) Calling the Base Class Constructor
  - (iv) Hiding the Base Class Method
  - (v) Controlling Access
  - (vi) Understanding Inheritance Involving Namespace
  - (vii) Working with Protected Members
- (c) Polymorphism

- (i) What is Polymorphism?
- (ii) Implementing Static Polymorphism
- (iii) Implementing Dynamic Polymorphism
- (d) More on Inheritance
  - (i) Discussing Abstract Properties and Methods
  - (ii) Understanding Sealed Classes
- (e) The Root of All Classes: Object
- (f) Interface Implementation in C#

#### 4. **Session 18-22: Some Advanced Concepts in C#**

- (a) Implementing Delegates in C#
  - (i) Exposing Delegates
  - (ii) Defining Delegates
  - (iii) Creating Delegate Method Handlers
  - (iv) Hooking Up Delegates and Handlers
  - (v) Invoking Methods Through Delegates
  - (vi) Multicasting with Delegates
  - (vii) Checking Delegate Equality
  - (viii) Implementing Delegate Inference
  - (ix) Assigning Anonymous Methods
- (b) Coding Events
  - (i) What is an Event?
  - (ii) Defining Event Handlers
  - (iii) Registering for Events
  - (iv) Implementing Events
  - (v) Firing Events
  - (vi) Modifying Event Add/Remove Methods
- (c) Working with Custom Attributes
  - (i) Creating Your Own Attributes
  - (ii) The AttributeUsage Attribute
- (d) Reflection in C#
  - (i) What is Reflection?
  - (ii) Using Reflection
- (e) Working with Implicitly Typed Local Variables
- (f) Using Extension Methods
  - (i) Introduction
  - (ii) Declaring Extension Methods
  - (iii) Importing Extension Methods
  - (iv) Extension Method Invocations
- (g) Working with Lambda Expressions
  - (i) What are Lambda Expressions?
  - (ii) Lambda Expression Conversions
  - (iii) Type Inference
  - (iv) Overload Resolution
- (h) Working with Object and Collection Initializers
  - (i) Introduction to Object and Collection Initializers
  - (ii) Object Initializers
  - (iii) Collection Initializers
- (j) Working with Implicitly Typed Arrays
- (k) Working with Query Expressions

- (i) What Are Query Expressions?
- (ii) Query Expression Translation
- (iii) The Query Expression Pattern

**5. Session 23-24: Overview of New Features in C# 4.0**

- (a) C# 4.0 New Features
- (b) Named and Optional Parameters
  - (i) Optional Parameters
  - (ii) Named Parameters
- (c) Dynamic Programming
- (d) Covariance and Contravariance
- (e) COM Interop

**6. Session 25-30: Introduction to Web Programming in .NET**

- (a) The Evolution of Web Development
  - (i) History about Web
  - (ii) The Early Web Development World
  - (iii) What's Wrong with Classic ASP?
- (b) A Brief Overview of ASP.NET
  - (i) Introducing ASP.NET
  - (ii) Seven Important Facts about ASP.NET
- (c) Evolution of ASP.NET
- (d) Visual Studio 2010 for Web Development
- (e) Exploring the Code Model
- (f) Working with Web Projects
- (g) Using Visual Studio Debugging Tool

**7. Session 31-34: Page Processing**

- (a) Web Forms
- (b) About Page Processing
- (c) HTML Forms
- (d) Dynamic User Interface
- (e) The ASP.NET Event Model

**8. XHTML Compliance**

- (a) Getting Introduced to XHTML Compliance
- (b) Document Type Definitions
- (c) Configuring XHTML Rendering
- (d) Visual Studio's Default Doctyp
- (e) XHTML Validation
- (f) Web Forms Processing Stages
- (g) Page Framework Initialization
- (h) User Code Initialization
- (i) Validation
- (j) Event Handling
- (k) Page Rendering Controls
- (l) Exploring the Page Class
- (m) Automatic Data Binding – A Brief Introduction

9. **Session 35-42: Exploring Server Controls**
  - (a) Exploring Specialized Server Controls
  - (b) Types of Server Controls
  - (c) The Server Control Hierarchy
  - (d) The Label Control
  - (e) The Literal Control
  - (f) The Table Layout Controls
  - (g) Image Manipulation Controls
  - (h) The Image Control
  - (i) The ImageButton Control
  - (j) The ImageMap Control
  - (k) The Calendar Control
  - (l) The FileUpload Control
  - (m) The Panel Control
  - (n) The MultiView and View Controls
  - (o) Introducing Data-Bound Controls
  - (p) Working with Data Source Controls
  - (q) Using the DataBinder Class
  - (r) Working with List Controls
  - (s) Working with Navigation Toolbox Controls
  
10. **Session 43-46: ASP.NET State Management**
  - (a) Introduction
  - (b) Client Side State Management
  - (c) Server Side State Management
  
11. **Session 47-49: The ADO.NET Architecture**
  - (a) Introduction
  - (b) Understanding the Terminology
  - (c) Introducing ADO.NET
  - (d) Connecting to and Working with a Database
  - (e) Making the Connection to the Database
  - (f) Executing a Command
  - (g) Retrieving Data with a DataReader
  - (h) Implementing SQL Server transactions with ADO.NET
  
12. **Session 50-54: The DataSet Classes**
  - (a) Introduction to DataSet Classes
  - (b) The DataAdapter Class
  - (c) Working with Multiple Tables and Relationships
  - (d) Searching for Specific Rows
  - (e) Using the DataSet in a Data Access Class
  - (f) Data Binding
  - (g) The DataView Class
  - (h) Sorting with a DataView
  - (i) Filtering with a DataView
  - (j) Advanced Filtering with Relationships
  - (k) Calculated Columns
  - (l) Typed DataSets
  - (m) Custom TableAdapters



- (n) Creating a Typed DataSet
  - (o) Dissecting the Typed DataSet
  - (p) Using the Typed DataSet
13. **Session 55-60: The GridView**
- (a) Introduction to GridView
  - (b) Defining Columns
  - (c) Formatting the GridView
  - (d) Formatting Fields
  - (e) Working with Styles
  - (f) GridView Row Selection
  - (g) Using Selection to Create a Master-Details Form
  - (h) The SelectedIndexChanged Event
  - (i) Working with GridView Templates
  - (j) Editing Without a Command Column
  - (k) Grouping & Paging
14. **Session 61-66: Working with User Controls**
- (a) Overview of User Controls
  - (b) Creating User Controls
  - (c) Defining User Control Events
  - (d) Passing Events Up to the Page
  - (e) Defining Properties in User Controls
  - (f) Accessing Control Values
  - (g) Adding a User Control to a Page
  - (h) Dynamically Loading User Controls
  - (i) Creating a Templated User Control
  - (j) Using a Templated User Control
15. **Session 67-72: Understanding the Validation Framework**
- (a) Understanding the Validation Framework
  - (b) Adding Validation Controls to Your Page
  - (c) Server and client-Side Validation
  - (d) Determining When to Cause Validation
  - (e) Using Validation Groups
  - (f) Understanding the RequiredFieldValidator Control
  - (g) Using the CompareValidator Control
  - (h) Using the RangeValidator and regular Expression Control

Web Designing and Adobe Photoshop

Time Duration – 96 Hours  
(Each Session is of 2 Hrs Duration)

Number of Sessions - 48

**Part 1: Adobe Photoshop Essentials****1. Session 1-2: Getting Started**

- (a) Work with Images
- (b) Understanding Photoshop
- (c) Start Photoshop on a PC
- (d) The Photoshop Workspace
- (e) Find Images for Your Projects
- (f) Set Preferences
- (g) Save a Workspace
- (h) Open an Image
- (i) Browse for an Image in Bridge
- (j) Sort and Filter Images in Bridge
- (k) Display a Slide Show in Bridge
- (l) Import Images from a Camera in Bridge
- (m) Create a New Image
- (n) Exit Photoshop
- (o) Lab Practice

**2. Session 3-4: Understanding Photoshop Basics**

- (a) Introducing the Photoshop Toolbox
- (b) Work with Toolbox Tools
- (c) Magnify with the Zoom Tool
- (d) Adjust Views
- (e) Change Screen Modes
- (f) Using Rulers and Guides
- (g) Undo Commands
- (h) Revert an Image
- (i) Manage Image Windows
- (j) Lab Practice

**3. Session 5-6: Changing the Size of an Image**

- (a) Change the On-Screen Size of an Image
- (b) Change the Print Size of an Image
- (c) Change the Resolution of an Image
- (d) Crop an Image
- (e) Crop and Straighten Photos
- (f) Trim an Image
- (g) Change the Canvas Size of an Image
- (h) Lab Practice

**4. Session 7-8: Making Selections**

- (a) Select with the Marquee Tools
- (b) Select with the Lasso Tool

- (c) Select with the Magnetic Lasso Tool
- (d) Select with the Quick Selection Tool
- (e) Select with the Magic Wand Tool
- (f) Select with the Color Range Command
- (g) Select All the Pixels in an Image
- (h) Move a Selection Border
- (i) Add to or Subtract from a Selection
- (j) Invert a Selection
- (k) Grow a Selection
- (l) Create Slices
- (m) Lab Practice

#### **5. Session 9-10: Manipulating Selections**

- (a) Move a Selection
- (b) Copy and Paste a Selection
- (c) Delete a Selection
- (d) Rotate a Selection
- (e) Scale a Selection
- (f) Skew or Distort a Selection
- (g) Perform Content-Aware Scaling
- (h) Refine a Selection Edge
- (i) Feather the Border of a Selection
- (j) Create Vanishing Point Planes
- (k) Copy between Vanishing Point Planes
- (l) Using the Content-Aware Move Tool
- (m) Lab Practice

#### **6. Session 11-14: Painting and Retouching with Color**

- (a) Select the Foreground and Background Colors
- (b) Select a Color with the Eyedropper Tool
- (c) Select a Color with the Swatches Panel
- (d) Using the Brush Tool
- (e) Change Brush Styles
- (f) Apply a Gradient
- (g) Stroke a Selection
- (h) Fill a Selection
- (i) Using the Clone Stamp
- (j) Using the Pattern Stamp
- (k) Using the Eraser
- (l) Replace a Color
- (m) Fix Red Eye in a Photo
- (n) Lab Practice

#### **7. Session 15-18: Working with Layers**

- (a) What Are Layers?
- (b) Create and Add to a Layer
- (c) Hide/Move/Duplicate/Delete/Reorder a Layer
- (d) Change the Opacity of a Layer
- (e) Merge Layers
- (f) Rename a Layer

- (g) Transform a Layer
- (h) Link Layers
- (i) Blend Layers
- (j) Work with Smart Objects
- (k) Create a Layer Group
- (l) Filter Layers
- (m) Add a Layer Mask
- (n) Edit a Layer Mask
- (o) Lab Practice

#### **8. Session 19-20: Applying Layer Styles**

- (a) Apply a Drop Shadow
- (b) Apply an Outer Glow
- (c) Apply Beveling and Embossing
- (d) Apply Multiple Styles to a Layer
- (e) Edit a Layer Style
- (f) Using the Styles Panel
- (g) Lab Practice

#### **9. Session 21: Drawing Shapes**

- (a) Draw a Shape
- (b) Draw a Custom Shape
- (c) Draw a Straight Line
- (d) Draw a Shape with the Pen
- (e) Edit a Shape
- (f) Lab Practice

#### **10. Session 22-23: Applying Filters**

- (a) Turn an Image into a Painting
- (b) Blur an Image
- (c) Sharpen an Image
- (d) Distort an Image
- (e) Add Noise to an Image
- (f) Turn an Image into Shapes
- (g) Apply Glowing Edges to an Image
- (h) Add Texture to an Image
- (i) Offset an Image
- (j) Using Smart Filters
- (k) Correct Blur from Camera Shake
- (l) Lab Practice

#### **11. Session 24: Saving and Printing Images**

- (a) Save in the Photoshop Format
- (b) Save an Image for Use in Another Application
- (c) Save an Image for the Web
- (d) Add Descriptive and Copyright Information
- (e) Save a Sliced Image
- (f) Print by Using a PC
- (g) Lab Practice

## Part 2: Getting Started with Web Design with HTML/CSS

### 12. Session 25-28: Getting Started Working with HTML

- (a) Introduction to Web Page Designing
  - (i) What is a Web Page?
  - (ii) A Basic Web Page Layout
  - (iii) Aesthetic Principles for Page Design
  - (iv) Introducing HTML
  - (v) Identifying Some Common Tags Used in HTML
- (b) Performing Text Formatting
  - (i) Formatting Text with Bold, Italics, Sub and Superscript
  - (ii) Centering the Text
  - (iii) Putting Heading in a Web Page
  - (iv) Using Text Color
  - (v) Formatting the Fonts
  - (vi) Using Bullets and Lists in a Web Page
  - (vii) Putting a Horizontal Rule in a Web Page
  - (viii) Working with Some Additional HTML Tags
  - (ix) Lab Practice

### 13. Session 29-34: Enhancing Your Web Page

- (a) Designing a Web Page with Image
  - (i) Understanding Various Image Formats
  - (ii) Adding an Image to a Web Page
  - (iii) Aligning Images
  - (iv) Working with Some More Image Tags
  - (v) Designing a Web Page with Text and Image Formatting
- (b) Working with HTML Tables
  - (i) Creating a HTML Table
  - (ii) Formatting Cells in a HTML Table
  - (iii) Using Images in a Cell
  - (iv) Working with Nested Tables
- (c) Adding Links to a Web Page
  - (i) What is a Hyperlink?
  - (ii) What are Anchors?
  - (iii) Defining Target and Bookmarks
  - (iv) Using Email Links
  - (v) Using Navigational Icons
  - (vi) Using Image Maps
  - (vii) Adding Links to Other Files
  - (viii) Lab Practice

### 14. Session 35-40: Designing a Web Based Form

- (a) Introducing HTML Forms
- (b) Adding Textbox and TextArea to a Web Form
- (c) Using Command Buttons in a Web Form
- (d) Using Checkboxes and Option Buttons in a Web Form
- (e) Using List Boxes in a Web Form
- (f) Aligning Form Elements
- (g) Securing Your Web Form Content

- (h) Designing Frames
- (i) Putting Hyperlinks in a Frame
- (j) Lab Practice

**15. Session 41-48: Enhancing Web Sites Using Cascading Style Sheet (CSS)**

- (a) Understanding Style Sheet Basics
- (b) Adding Style to a Document
- (c) Exploring CSS and HTML Elements
- (d) Working with Selectors
- (e) Working with Document Structure and Inheritance
- (f) Understanding CSS Properties
- (g) Discussing Font Properties
- (h) Discussing Text Properties
- (i) Discussing List Properties
- (j) Discussing Color and Background Properties
- (k) Discussing Box Properties
- (l) Discussing Display Properties
- (m) Understanding CSS2 Enhancements
- (n) Lab Practice

Microsoft Exchange Server 2010Time Duration - 48 HoursNo. of Sessions - 24**(Each Session is of 2 Hrs. Duration)**

1. **Session 1: Deploying Microsoft Exchange Server 2010**
  - (a) Overview of Exchange Server 2010 Requirements
  - (b) Installing Exchange Server 2010 Server Roles
  - (c) Completing an Exchange Server 2010 Installation
  
2. **Session 2: Configuring Mailbox Servers**
  - (a) Overview of Exchange Server 2010 Administrative Tools
  - (b) Configuring Mailbox Server Roles
  - (c) Configuring Public Folders
  
3. **Session 3-4: Managing Recipient Objects**
  - (a) Managing Mailboxes
  - (b) Managing Other Recipients
  - (c) Configuring E-Mail Address Policies
  - (d) Configuring Address Lists
  - (e) Performing Bulk Recipient Management Tasks
  
4. **Session 5-6: Managing Client Access**
  - (a) Configuring the Client Access Server Role
  - (b) Configuring Client Access Services for Outlook Clients
  - (c) Configuring Outlook Web App
  - (d) Configuring Mobile Messaging
  
5. **Session 7-8: Managing Message Transport**
  - (a) Overview of Message Transport
  - (b) Configuring Message Transport
  
6. **Session 9-10: Implementing Messaging Security**
  - (a) Deploying Edge Transport Servers
  - (b) Deploying an Antivirus Solution
  - (c) Configuring an Anti-Spam Solution
  - (d) Configuring Secure SMTP Messaging
  
7. **Session 11-12: Implementing High Availability**
  - (a) Overview of High Availability Options
  - (b) Configuring Highly Available Mailbox Databases
  - (c) Deploying Highly Available Non-Mailbox Servers
  
8. **Session 13-14: Implementing Backup and Recovery**
  - (a) Planning Backup and Recovery
  - (b) Backing Up Exchange Server 2010
  - (c) Restoring Exchange Server 2010
  
9. **Session 15-17: Configuring Messaging Policy and Compliance**

- (a) Introducing Messaging Policy and Compliance
  - (b) Configuring Transport Rules
  - (c) Configuring Journaling and Multi-Mailbox Search
  - (d) Configuring Messaging Records Management
  - (e) Configuring Personal Archives
10. **Session 18: Securing Microsoft Exchange Server 2010**
- (a) Configuring Role Based Access Control
  - (b) Configuring Security for Server Roles in Exchange Server 2010
  - (c) Configuring Secure Internet Access
11. **Session 19-20: Maintaining Microsoft Exchange Server 2010**
- (a) Monitoring Exchange Server 2010
  - (b) Maintaining Exchange Server 2010
  - (c) Troubleshooting Exchange Server 2010
12. **Session 21-22: Upgrading from Exchange Server 2003 or Exchange Server 2007 to Exchange Server 2010**
- (a) Overview of Upgrading to Exchange Server 2010
  - (b) Upgrading from Exchange Server 2003 to Exchange Server 2010
  - (c) Upgrading from Exchange Server 2007 to Exchange Server 2010
13. **Session 23-24: Advanced Topics in Exchange Server 2010**
- (a) Implementing Unified Messaging
    - (i) Overview of Telephony
    - (ii) Introducing Unified Messaging
    - (iii) Configuring Unified Messaging
    - (iv) Lab Practice
  - (b) Deploying Highly Available Solutions for Multiple Sites
  - (c) Implementing Federated Sharing



**MS SharePoint 2013****Time Duration – 96 Hours****Number of Sessions - 48****(Each Session is of 2 Hrs Duration)**

1. **Session 1: Introducing SharePoint Server 2013**
  - (a) Key Components of a SharePoint Deployment
  - (b) New Features in SharePoint 2013
  - (c) SharePoint 2013 Deployment Options
  
2. **Session 2: Designing an Information Architecture**
  - (a) Identifying Business Requirements
  - (b) Understanding Business Requirements
  - (c) Organizing Information in SharePoint 2013
  - (d) Planning for Discoverability
  - (e) Identifying Site Columns and Content Types
  - (f) Designing a Business Taxonomy
  
3. **Session 3: Designing a Logical Architecture**
  - (a) Overview of SharePoint 2013 Logical Architecture
  - (b) Documenting Your Logical Architecture
  - (c) Plan a Logical Architecture
  - (d) Produce a Logical Architecture Diagram
  
4. **Session 4-5: Designing a Physical Architecture**
  - (a) Designing Physical Components for SharePoint Deployments
  - (b) Designing Supporting Components for SharePoint Deployments
  - (c) SharePoint Farm Topologies
  - (d) Mapping a Logical Architecture Design to a Physical Architecture Design
  - (e) Designing a Physical Architecture
  - (f) Develop a Physical Architecture Design Diagram
  
5. **Session 6-8: Installing and Configuring SharePoint Server 2013**
  - (a) Installing SharePoint Server 2013
  - (b) Scripting Installation and Configuration
  - (c) Configuring SharePoint Server 2013 Farm Settings
  - (d) Provisioning a SharePoint 2013 Server Farm
  - (e) Configuring SharePoint Server 2013 Farm Settings
  - (f) Configuring Outgoing Email
  - (g) Configuring Integration with Office Web Apps Server 2013
  
6. **Session 9-11: Creating Web Applications and Site Collections**
  - (a) Creating Web Applications
  - (b) Configuring Web Applications
  - (c) Creating and Configuring Site Collections
  - (d) Creating a Web Application
  - (e) Configuring a Web Application

- (f) Creating Site Collections
  - (g) Creating Site Collections in New Content Databases
  - (h) Creating a Warm-up Script
7. **Session 12-13: Planning and Configuring Service Applications**
- (a) Introduction to Service Application Architecture
  - (b) Creating and Configuring Service Applications
  - (c) Provisioning a Managed Metadata Service Application with Central Administration
  - (d) Provisioning a Managed Metadata Service Application with Windows PowerShell
  - (e) Configuring Service Applications for Document Conversions
  - (f) Configuring Service Application Proxy Groups
8. **Session 14-15: Managing Users and Permissions**
- (a) Authorization in SharePoint 2013
  - (b) Managing Access to Content
  - (c) Creating a Web Application Policy
  - (d) Creating and Managing SharePoint Groups
  - (e) Creating Custom Permission Levels
  - (f) Managing Permissions and Inheritance
  - (g) Managing Site Collection Security
9. **Session 16-17: Configuring Authentication for SharePoint 2013**
- (a) Overview of Authentication
  - (b) Configuring Federated Authentication
  - (c) Configuring Server-to-Server Authentication
  - (d) Configuring AD FS to Make the Web Application a Relying Party
  - (e) Configuring SharePoint to Trust AD FS as an Identity Provider
  - (f) Configuring the Web Application to Use the AD FS Identity Provider
10. **Session 18-20: Securing a SharePoint 2013 Deployment**
- (a) Securing the Platform
  - (b) Configuring Farm-Level Security
  - (c) Configuring SharePoint and SQL Server to Communicate Over Non-Standard Ports
  - (d) Configuring Firewalls for SharePoint Server Farms
  - (e) Configuring Blocked File Types
  - (f) Configuring Web Part Security
  - (g) Implementing Security Auditing
11. **Session 21-22: Managing Taxonomy**
- (a) Managing Content Types
  - (b) Understanding Term Stores and Term Sets
  - (c) Managing Term Stores and Term Sets
  - (d) Creating Content Types for Propagation
  - (e) Publishing Content Types Across Site Collections
  - (f) Configuring the Managed Metadata Service
  - (g) Creating Term Sets and Terms
  - (h) Consuming Term Sets

12. **Session 23-24: Configuring User Profiles**
  - (a) Configuring the User Profile Service Application
  - (b) Managing User Profiles and Audiences
  - (c) Creating a User Profile Service Application
  - (d) Configuring Directory Import
  - (e) Configuring My Sites
  - (f) Configuring Audiences
  
13. **Session 25-27: Configuring Enterprise Search**
  - (a) Understanding the Search Service Architecture
  - (b) Configuring Enterprise Search
  - (c) Managing Enterprise Search
  - (d) Configuring the Search Service Application
  - (e) Configuring a File Share Content Source
  - (f) Configuring a Local SharePoint Content Source
  - (g) Creating a Search Center
  - (h) Optimizing Search Results
  - (i) Customizing the Search Experience
  
14. **Session 28: Monitoring and Maintaining a SharePoint 2013 Environment**
  - (a) Monitoring a SharePoint 2013 Environment
  - (b) Tuning and Optimizing a SharePoint Environment
  - (c) Planning and Configuring Caching
  - (d) Troubleshooting a SharePoint 2013 Environment
  
15. **Session 29: Designing Business Continuity Management Strategies**
  - (a) Designing Database Topologies for High Availability and Disaster Recovery
  - (b) Designing SharePoint Infrastructure for High Availability
  - (c) Planning for Disaster Recovery
  - (d) Create a Backup and Restore Plan
  - (e) Test the Backup and Restore Process
  
16. **Session 30-31: Planning and Implementing a Service Application Architecture**
  - (a) Planning Service Applications
  - (b) Designing and Configuring a Service Application Topology
  - (c) Configuring Service Application Federation
  - (d) Planning a Service Application Topology
  - (e) Creating a Service Application Instance
  - (f) Establishing Trust Relationships between SharePoint Farms
  - (g) Publishing and Consuming Service Applications
  
17. **Session 32-33: Configuring and Managing Business Connectivity Services**
  - (a) Planning and Configuring Business Connectivity Services
  - (b) Configuring the Secure Store Service
  - (c) Managing Business Data Connectivity Models
  - (d) Configuring the Business Data Connectivity Service Application

- (e) Configuring the Secure Store Service
  - (f) Configuring a Secure Store Service Target Application
  - (g) Importing and Configuring BDC Models
18. **Session 34-35: Connecting People**
- (a) Managing User Profiles
  - (b) Enabling Social Interaction
  - (c) Building Communities
  - (d) Configuring Profile Synchronization
  - (e) Configuring My Sites
  - (f) Creating a Community Site Infrastructure
  - (g) Configuring Community Site Participation
19. **Session 36-37: Enabling Productivity and Collaboration**
- (a) Aggregating Tasks
  - (b) Planning and Configuring Collaboration Features
  - (c) Planning and Configuring Composites
  - (d) Creating Project Sites
  - (e) Configuring Project Sites
  - (f) Engaging Project Teams
  - (g) Configure Windows Azure Workflow and SharePoint Workflow Services
  - (h) Creating and Testing a Workflow
20. **Session 38-40: Planning and Configuring Business intelligence**
- (a) Planning for Business Intelligence
  - (b) Planning, Deploying, and Managing Business Intelligence Services
  - (c) Planning and Configuring Advanced Analysis Tools
  - (d) Provisioning Excel Services
  - (e) Configuring External Data Access
  - (f) Configuring Data Connections
  - (g) Configuring PowerPivot for SharePoint
  - (h) Configuring Power View for SharePoint
21. **Session 41-42: Planning and Configuring Enterprise Search**
- (a) Configuring Search for an Enterprise Environment
  - (b) Configuring the Search Experience
  - (c) Optimizing Search
  - (d) Planning a Search Solution
  - (e) Configuring a Thesaurus
  - (f) Configuring Entity Extractors and Refiners
  - (g) Configuring Query Spelling Correction
  - (h) Configuring Company Name Extraction
22. **Session 43-44: Planning and Configuring Enterprise Content Management**
- (a) Planning Content Management
  - (b) Planning and Configuring eDiscovery
  - (c) Planning Records Management
  - (d) Creating and Configuring an eDiscovery Center

- (e) Discovering and Preserving Content
- (f) Querying and Exporting Content
- (g) Configuring In-Place Records Management

23. **Session 45-47: Planning and Configuring Web Content Management**

- (a) Planning and Implementing a Web Content Management Infrastructure
- (b) Configuring Managed Navigation and Catalog Sites
- (c) Supporting Multiple Languages and Locales
- (d) Enabling Design and Customization
- (e) Supporting Mobile Users
- (f) Configuring Product Catalog Sites
- (g) Configuring Cross-Site Publishing
- (h) Configuring Publishing Sites
- (i) Configuring Device Channels

24. **Session 48: Managing Solutions in SharePoint Server 2013**

- (a) Understanding the SharePoint Solution Architecture
- (b) Managing Sandbox Solutions
- (c) Configuring Sandboxed Solution Management at the Farm Level
- (d) Configuring Sandboxed Solution Management at the Site Collection Level
- (e) Deploying Farm Solutions

Web DevelopmentTime Duration – 96 HoursNo. of Sessions - 48(Each Session is of 2 Hrs. Duration)**Part 1: PHP Scripting Fundamentals**

1. **Session 1-4: PHP – Let’s Get Started**
  - (a) Getting Started with PHP
  - (b) Working with Simple Expressions in PHP
  - (c) Using Control and Looping Statements
  - (d) Working with Functions
  
2. **Session 5-6: Working with Arrays**
  - (a) Storing Data in Arrays using PHP
  - (b) Manipulating Arrays
  
3. **Session 7-11: Processing Web Forms in PHP**
  - (a) Working with Forms in PHP
  - (b) Validating Input Data
  - (c) Using Magic Quotes
  
4. **Session 12-15: File and Directory Access in PHP**
  - (a) PHP File Handling
  - (b) PHP Directory Handling
  
5. **Session 16-17: Working with Strings**
  - (a) Formatting Strings
  - (b) Investigating Strings
  - (c) Manipulating Strings
  
6. **Session 18-20: Saving Form Data**
  - (a) Saving Form Data Using Cookies
  - (b) Saving Form Data Using Sessions
  
7. **Session 21-24: Handling Databases**
  - (a) Working with the DBA Functions
  - (b) Database Integration—SQL

**Part 2: Developing Web Site with Joomla**

8. **Session 25-32: Getting Started with Joomla!**
  - (a) Introducing the Joomla! Content Management System
  - (b) Installing and Configuring Joomla!
  - (c) Taking a Tour of the Joomla! Interface
  - (d) Getting the Most from Site Configuration
  
9. **Session 33-40: Working with Content and Users**
  - (a) Defining Section and Category Structure

- (b) Creating, Editing, and Deleting Sections
- (c) Creating, Editing, and Deleting Categories
- (d) Creating, Editing, and Deleting Articles
- (e) Adding Articles to the Home Page
- (f) Using Advanced Article Options
- (g) Including Media in Articles
- (h) Working with Editors
- (i) Working with the Menu System
- (j) Managing User Access and Permissions

10. **Session 41-48: Working with Joomla Modules and Templates**

- (a) Working with Modules: Advertisements, Archives, Banners, Custom HTML, and More
- (b) Working with Modules: Footers, Search Boxes, Who's Online, Wrappers, and More
- (c) Laying Out Your Web Pages with Joomla Templates

**Appendix S**

**IT TRAINING FOR NAVAL PERSONNEL 2015-16**

<b>SI</b>	<b>Courses</b>	<b>Duration</b>	<b>New Delhi</b>	<b>Mumbai</b>	<b>Vizag</b>	<b>Kochi</b>	<b>Goa</b>	<b>Lonavala</b>	<b>Jamnagar</b>	<b>Port Blair</b>	<b>Total</b>
(a)	NA	2 weeks	10	10	10	10	10	10	10	-	70
(b)	NS	2 weeks	10	10	10	10	10	10	10	-	70
(c)	Windows 2012 Advanced Server	2 weeks	10	10	10	10	10	10	10	10	80
(d)	Fundamentals of Database Management	1 Week	10	10	10	10	10	10	10	0	70
(e)	MS project 2013	1 week	10	10	10	10	0	0	10	0	50
(f)	Hardware Training	2 weeks	10	10	10	10	10	10	10	10	80
(g)	IT Professional Course	2 weeks	15	20	15	20	15	10	20	15	130
(h)	Cyber Security & Ethical Hacking	2 weeks	20	30	20	30	20	10	20	10	160
(j)	Oracle 11g Database Development & Administration	4 weeks	15	15	15	15	0	10	15	0	85
(k)	SQL Server 2012 Database Development & Administration	3 weeks	10	15	15	15	10	10	10	0	85
(l)	Linux Administration and Security	2 weeks	10	10	10	10	10	10	10	0	70
(m)	ASP>Net 4.0 with C#	3 weeks	10	10	10	10	10	10	10	0	70
(n)	Web Designing & Photoshop	2 weeks	10	10	10	10	0	0	0	0	40



(p)	MS Exchange 2010	1 week	10	10	10	10	0	0	10	0	50
(q)	MS Share Point 2013	2 weeks	10	10	10	10	0	0	0	0	40
(r)	Web Development	2 weeks	10	10	10	10	0	0	10	0	50
<b>Total</b>			<b>135</b>	<b>205</b>	<b>195</b>	<b>195</b>	<b>95</b>	<b>105</b>	<b>180</b>	<b>60</b>	<b>1200</b>

**Note: Each week consists of 6 working days (Monday to Saturday) from 0900 – 1730 Hrs. The strength of each course is as shown in the table above.**

**FORMAT FOR TECHNICAL BID**

1. The Technical Bid should consist of the documents in the sequence given below:-
  - (a) Index page indicating the technical bid contents with appropriate page numbers.
  - (b) The Compliance matrix for Vendor Evaluation Criteria stated at **Appendix 'V'**, along with the required supporting documents in the same sequence.
  - (c) The Technical Evaluation Matrix (**Appendix 'W'**).
  - (d) **Vendor to give undertaking regarding acceptance of all terms and conditions of the RFP.**
  - (e) The details of documents and facilities to be provided to trainees for each type of course including those required for hands on / practical training.
  - (f) Assumptions, Exclusions, Concessions, Deviations.
  - (g) Client list from major Defence / Public Sector Units (PSU) along with the list of IT training courses conducted and the year of such training undertaken.
  - (h) Any additional document on Company Profile, Employee Profile etc.

**FORMAT FOR COMMERCIAL BID**

<b>S No.</b>	<b>ITEM</b>	<b>COST PER TRAINEE</b>
<b>1</b>	Network Administration (NA)	
<b>2</b>	Network Security (NS)	
<b>3</b>	Windows 2012 Advanced Server	
<b>4</b>	Fundamentals of Database management	
<b>5</b>	MS Project 2013	
<b>6</b>	Hardware Training	
<b>7</b>	IT Professionals Course	
<b>8</b>	Cyber Security & Ethical Hacking	
<b>9</b>	Oracle 11g Database Development & Administration	
<b>10</b>	SQL Server 2012 Advance Server	
<b>11</b>	Linux Administration and Security	
<b>12</b>	ASP>Net 4.0 with C#	
<b>13</b>	Web Designing and Photoshop	
<b>14</b>	Microsoft Exchange 2010	
<b>15</b>	MS Share Point 2013	
<b>16</b>	Web Development	

<b>17.</b>	Is Service Tax extra?If yes, then mention the following: (a) Total value of Services on which Service Tax is leviable: (b) Rate of Service Tax leviable: (c) Total value of Service Tax leviable:	
<b>18.</b>	Any other Taxes / Duties / Overheads / Other costs:	

**FORMAT FOR VENDOR EVALUATION COMPLIANCE MATRIX**

SI No.	CRITERIA	COMPLIANCE STATUS (YES/NO)	REASONS NON-COMPLIANCE	SUPPORTING DOCUMENTS REQUIRED WITH REFERENCE IN THE BID SUBMITTED
1.	Proposal submitted in accordance with 02 bid system			
2.	The vendor must possess <b>ISO 9001: 2008 certification</b> for conduct of IT Training. Appropriate documentary proof for valid ISO training certificate.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
3.	The firm must be <b>registered with NASSCOM</b> and incorporated under Indian Companies Act 1956. A documentary proof of both registrations is required to be submitted along with technical bid. Both certificates must be valid at the time of T-bid evaluation.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
4.	Documentary proof for the periodic internal and external audits.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
5.	The vendor must be an Information Technology company and specialised in IT education/training delivery.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
6.	The vendor should have its <b>own training centres at atleast 04 locations where the training has been scheduled</b> . The list of training centres with address, contact details etc should be forwarded along with the technical bid.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid

7.	The vendor should have a <b>minimum turn over of Rs 50 Crores</b> in each of the previous three FYs I.e. 2011-12, 2012-13, 2013-14.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
8.	Certified trainers for training on courses mentioned at para 3 part II of RFP with experience as mentioned at para 17 & 18, part II of RFP.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
9.	The vendor must have its own captive infrastructure for IT training at Delhi and Mumbai as mentioned at Para 5 Part V of RFP.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
10.	Vendor must be in the business of IT Training/education since at least past three years from 01 Jan 2013. Documentary proof for this clause is to be submitted along with Technical bid.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
11.	The vendor must have executed at least <b>four successful IT Training programs for Govtorganisation/ Defence/ PSUs</b> of contract value <b>not less than 10 lakhs</b> each, in last three years.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
12.	The vendor must have trained more than 3000 trainees in last five years			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
13.	The vendor must have undertaken IT Training in atleast five courses mentioned at para 3, part II of RFP for Govt Department, Defence or PSU, in the past five years.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
14.	Vendor must have conducted atleast 10 CCNA /CCNS courses wherein trainees have been successful in achieving CCNA/CCNS CISCO certification.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid

15.	The firm should have own IT training centres mandatorily at Delhi and Mumbai. Address of both locations to be provided.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
16.	Consortium approach is not acceptable.			
17.	The bidder should not be under a declaration of ineligibility for corrupt and fraudulent practices issued by Government of India (GOI) or any other State Govt in India.			<b>Yes.</b> Refer Para_____ of Page_____ of Bid
18.	Demand Draft of Rs 500/- (non-refundable) towards the cost of Tender Documents.			
19.	Compliance to Earnest Money Deposit (EMD) clause.			

**FORMAT FOR TECHNICAL EVALUATION MATRIX**

S No.	CRITERIA	COMPLIANCE STATUS (YES/NO)	REASONS FOR NON COMPLIANCE	SUPPORTING DOCUMENTS ATTACHED, (Para No and Pg No.)
1.	Profile of the personnel involved in imparting training on the courses listed at para 18 Part II of RFP.			
2.	Detailed syllabus offered for the courses listed at para II of RFP			

3.	Scope of supply			
	Training in following areas:-			
(a)	Network Administrator			
(b)	Network Security			
(c)	Windows 2012 advanced Server Administration and Security.			
(d)	Fundamentals of Database management			
(e)	MS Project 2013			
(f)	Hardware Training			
(g)	IT Professionals Course			
(h)	Cyber Security & Ethical Hacking			
(j)	Oracle 11g Database Development & Administration			
(k)	SQL Server 2012 Advance Server			
(l)	Linux Administration and Security			
(m)	ASP>Net 4.0 with C#			
(n)	Web Designing and Photoshop			
(p)	Microsoft Exchange 2010			
(q)	Microsoft Share Point 2013			
(r)	Web Development			



4.	Training at following locations to be conducted.			
(a)	New Delhi			
(b)	Mumbai			
(c)	Kochi			
(d)	Visakhapatnam			
(e)	Goa			
(f)	Lonavala			
(g)	Jamnagar			
(h)	Port Blair			
5.	The vendor should be capable of adapting to any change in technology/new technology to cater to the needs of the Navy			
6.	The syllabus for the training would be tailored and approved by the Navy based on the requirements.			
7.	The vendor would be required to provide the requisite Hardware for the training as mentioned at Pare 15 Part II of RFP			
8.	Documentation and deliverables as per para 9 part II of RFP			
9.	Compliance to responsibilities of the vendor mentioned at paras 10-22, part II of RFP			

