

The Director,
Garware Institute of Career
Education and Development,
Vidyanagari Campus,
Kalina, Santacruz(East),
MUMBAI 400 098.

Sir,

I am to inform you that the recommendation of the course Committee of Garware Institute of Career Education and Development has been accepted by the Academic Council at its meeting held on 13th February, 2009 vide item No.7.10 and subsequently approved by the Management Council at its meeting held on 22nd May, 2009 vide item No.27 and that, in accordance therewith, Post-graduate Diploma in Telecom Management (PGDTLM) has been introduced by the University from the academic year 2009-2010.

Further that in exercise of the powers conferred upon the Management Council under Section 54(1) and 55(1) of the Maharashtra Universities Act, 1994, it has made **Ordinances 5832 and 5833 and Regulations 7018, 7019, 7020, 7021 and 7022** including syllabus relating to the Post-graduate Diploma in Telecom Management (PGDTLM) is passed as per Appendix and that the same has been brought into force with effect from the academic year 2009-2010.

Yours faithfully,

(D. H. KATE)
DEPUTY REGISTRAR
(U.G./P.G. Section)

A.C/7.10/13.02.2009

M.C./27/22.05.2009

Copy to :-

The Director, Board of College and University Development, the Deputy Registrar (Eligibility and Migration Section), the Director of Students Welfare, the Executive Secretary to the Vice-Chancellor, the Personal Assistant to the Pro-Vice-Chancellor, the Registrar and the Assistant Registrar, Administrative sub-centre, Ratnagiri for information.

The Officer on Special Duty and Controller of Examinations (10 copies), the Finance and Accounts Officer (2 copies), the Registrar, Enrolment, Eligibility and Migration Section (5 copies), the Deputy Registrar (Accounts Section), Vidyanagari (2 copies), the Deputy Registrar, Statistical Unit (2 copies), the Deputy Registrar (Special Cell), the Deputy Registrar, Affiliation Section (2 copies), the Director, Institute of Distance Education, (10 copies) the Deputy Registrar, Computer Center (IDE Building), Vidyanagari, (2 copies) the Deputy Registrar, Executive Authorities Unit (2 copies) and the Assistant Registrar, Executive Authorities Unit (2 copies) and the Assistant Registrar, Administrative Unit (2 copies).

Ac 13/2/09

DRAFT

UNIVERSITY OF MUMBAI

GARWARE INSTITUTE OF CAREER EDUCATION & DEVELOPMENT

ORDINANCE, REGULATIONS AND SYLLABUS FOR THE

PG DIPLOMA

IN

TELECOM MANAGEMENT

ONE YEAR FULL-TIME PROGRAMME

(w.e.f. academic year 2009- 2010)

11/02/2009

UNIVERSITY OF MUMBAI
GARWARE INSTITUTE OF CAREER EDUCATION & DEVELOPMENT

PG DIPLOMA IN TELECOM MANAGEMENT
ONE YEAR FULL-TIME PROGRAMME
(w.e.f. academic year 2009- 2010)

Preamble :

The Telecom sector has been growing both in volume and diversity. There is growing need for qualified and trained management personnel to develop and innovate the business to put the latest technologies to applications in demand by consumer. The course is aimed at providing combination of the processes, characteristics and technology with management concepts and applications. Emphasis has been put in the syllabus on modern techniques; those yet to come and get popular at consumer level. Effort is made to give exposure to understand and develop new applications and products to turn technology in to business.

Objective :

To equip students with various technology, trends, processes in telecom and in knowledge of management, supported by training to get in-depth knowledge and necessary skills for non-engineering jobs in telecom sector.

Career Scope :

The employment opportunities are:

- In telecom manufacturing and marketing companies: in departments like Marketing, Customer Support, Market Research, Product planning, Finance, Project Finance, coordination with Banks and Insurance, Billing and Recovery, Macro Planning, Project Management, Service Level Monitoring and Reporting to Engineering, Public Relations, Govt Coordination, Purchase and Logistics etc.
- Single person owned, or family business of telecom marketing, sales, distribution is in existence for long and has excellent opportunities.

0 5832 Title of the Course : PG Diploma in Telecom Management

R 7018 Duration : One year full time.

R 7019 Total Capacity of Students : 60

0 5833 Eligibility : Graduate in any faculty.
Admission on the basis of written test and interview

R 7020 Teacher's Qualification : Expertise in the subject.

R 7021 Fees: : Course fees Rs. 25000 for each Semester. Fees like PG Registration, Eligibility, Sports, etc extra.
Fee structure enclosed.

R 7022

Standard of Passing :-

The minimum percentage required for passing will be 50% in each paper.

Evaluation: 60% periodic evaluation, 40% semester end examination
Grading system :

75-100	O grade
65-74	A+ grade
60-64	A grade
55-59	B+ grade
50-54	B grade
<50	FAIL

ATKT: A student who fails in not more than two subjects in a semester can move to the next semester (ie getting maximum 2 ATKTs) and clear these (ATKTs) subjects in a supplementary examination held before the end semester examination semester.

4) A student who fails in more than two subjects can appear in the supplementary examination in all subjects but cannot go to the next semester. A student who fails in the practicals component or job training may be required to repeat that component and pass in the examination conducted separately for that component.

5) A student with ATKT has to appear in a supplementary examination in Progressive Evaluation (PE) or semester end - Final Evaluation (FE); whichever component the candidate has failed.

Carry forward Internal Marks for students failed in more than 2 subjects: If a student has passed in Progressive Evaluation but failed in total of the subject/s; the progressive evaluation marks are carried forward.

7) All theory semester-end exams will have 3 hours' duration.

Architecture of Course

Sem. I : August – December, Sem. II : January to July
Industry Training: Industry site work. 45 working days. May-July.
Project: To be done from start and submitted in March
1 credit = 15 theory hours or 30 practicals or 45 project hours.
Each semester 15 weeks

EXAMINATION PATTERN
(TOTAL MARKS: 1900 TOTAL CREDITS : 56)

Paper	Subject	Marks Assigned	Hours	Credits
Semester 1				
1	Introduction to management			
2	Marketing Management	100	45	3
3	Business Skills Development	100	45	3
4	Information Technology	100	45	3
5	Financial Management	100	45	3
6	Business Environment	100	45	3
7	Communications network & Telephony	100	45	3
8	Wireless Technologies	100	45	3
9	Telecom Systems & Networks - I	100	45	3
10	User Side Equipment & Applications	100	45	3
	Semester 1 Total	1000	450	30
Semester 2				
11	Telecom Systems & Networks - II			
12	Networking	100	45	3
13	Operations Management	100	45	3
14	Service Management	100	45	3
15	Quality Management	100	45	3
16	Project	100	45	3
17	Industry training (360 hrs)	100	45	3
	Semester 2 Total	300	360	8
	Total	1900	600	26
			1080	56

- Industry visits to see Telecom installations, Components, networks eg site visit to exchange, Customer Service Centres, towers, Broadcast transmitters, LAN/WAN networks etc.
- Guest Lectures, Manufacturer's presentations on their equipments and products etc.
- Visit to an installation during project planning, installation/commissioning.

SUBJECT-WISE SYLLABUS

PAPER NO.	SUBJECT
	Note for Teachers: The exposure in Telecom subjects should include: principles, merits, de-merits, application areas, differentiation between similar techniques without going into theoretical approach of drawing waveform patterns, circuits, formula derivations. The objective is to understand new technologies and the applications these open up, which will enable them to put these new application into plan and take to customer level as products. Hardware and Engineering aspects are not aimed at.
1	INTRODUCTION TO MANAGEMENT Basics of Management : Planning, organizing, Controlling, Leading, staffing, Line & Staff . Decision making process. MBO Business Communication, presentations, Official Correspondence Personality , time management, skills development, Networking Effectiveness. Plans, Budgets and self performance compared with targets. MIS. Committees & Group Decision making, Leadership Styles, Motivation Theories Books: Koontz, Harold and Weijrich, Heinz : Essentials of Management : an Indian perspective. TMG Weihrich Heinz and Koontz, Harold : Management : a global perspective. TMG Koontz, Harold & others : Principles of Management : TMG Drucker Peter F : Management :Tasks, Responsibilities and Practice. Allied Business Communication: Dr N Vashishtha, Dr Namita Rajput
2	MARKETING MANAGEMENT Concepts of present day marketing Analyzing markets, Segmentation in Business and consumer markets. Developing strategies and plans. Advertising, Sales Promotion, Publicity, Personal Selling, Direct Marketing, e-commerce. Product Planning: Marketing plan, Creating Brand Equity, Competition and Strategy, Product Strategy, Cost and Price. Pricing Strategies Distribution Channels: Role of partners. Franchising Marketing Budgets: investments, recurring, MIS. Marketing research (Qualitative coverage) Primary and Secondary research Surveys. Advertising research References Marketing: Philip Kotler
3	BUSINESS SKILLS DEVELOPMENT Emotional and Intelligence Quotients. Communication Presentation Working in teams Time Management Negotiation Skills Multicultural and Diversity environment Stress Management
4	INFORMATION TECHNOLOGY Introduction to computers and devices. Main Frame, Mini, PC, Storage devices, Client Server. IT infrastructure in industries. WORD, EXCEL, Power Point, MS: Project management. IT Systems in Industry: Operating systems / Database management Overview of Application software and ERPs , CRM

	Smart card Technology, Time Attendance Systems Management Information System References: Mastering Microsoft Office XP: Gini Courter & Annette Marquis Elements of Computing Systems :Noam Nisan and Shimon Schocken: Prentice Hall Fundamentals of Information Technology: Deepak Bharihok (Excel) Introduction to Computers :Peter Norton (TMG)
5	FINANCIAL MANAGEMENT Introduction to Accounting Practices, Maintenance of Accounts, Documents. Company Law. Accounting standards. Balance Sheet and Profit & Loss Account, Ratio Analysis. Costing Working Capital Requirements Planning & Budgeting Inventory Management: ABC Analysis. Banking Instruments, Insurance Capital Investments, Structure, Return On Investment Project Finance, Business Plan, Sensitivity Analysis CAPEX,OPEX Models: managed services, per port pricing, strategies to reduce manpower costs, reduce impact of old equipment, use of outsourcing technology / switching or transport operations for application of new equipment and technologies References: Khan M. Y. & Jain, P. K. : Financial Management : Text, Problems & Cases.New Delhi, Tata McGraw Hill Prasanna, Chandra : Financial Management : Tata Mc Graw Hill
6	BUSINESS ENVIRONMENT A) REGULATORY FRAMEWORK Indian Telegraph Act Wireless Telegraph Act National Telecom Policy 1994 New Telecom Policy 1999 Frequency Spectrum Application Allocation TRAI ANSI, European Specifications organisations ITU Telecom Associations Consumer Protection Act and Regulatory Bodies. FDI, FERA acts, control by Ministries and Reserve bank Taxation in India: Excise, import, export, local, state and central taxes Labour Law, Shop and Establishment Act. B) IMPORT EXPORT & LOGISTICS Import Tariffs Clearing and Forwarding Import and Export Management: Regulations Procedures; Documentation Export control and Policy, Import policy for exporters. Export Incentive Schemes: DEPB, export credits Export Processing Zones; Special Economic Zones Taxes: Import duty, VAT, service tax, sales tax, octroi References: *Govt of India websites *Import Export Policy Handbook: Jain Publishing *Logistical Management : Donald Bowersox and David Closs, TMG *Business Logistics / Supply Chain Management Ronald Ballou *New Directions in Supply Chain Management: Technology, Strategy & Implementation By Tonya Boon, Ram Ganeshan *Logistics Supply Chain Management Text and Cases: Anurag Saxena and Kaushik Sircar

7	COMMUNICATION NETWORK & TELEPHONY History of Telecom, Telegraph, Telephony manual connection. Switching Calls, Strowger & Cross Bar, Stored Programme Switching Systems, Blocking. Nature of Speech. Representation as synthesis of multi frequency waveform. Bandwidth and Capacity. Analogue Modulations: AM, FM, PM Broadcast Audio and Television Noise: Signal to Noise Ratio. Quality of a Channel: Clarity, Speed. Digitisation of wave form, Speech Digitisation Pulse Code Modulation. Radio Frequency Spectrum and applications in different bands. Media: Twisted pair, Coaxial cable, Optical Fibre, Microwave, Radio, Satellite Reference: Communication Networks : Sumit Kaserá, Nishit Narang and Sumita Narang
8	WIRELESS TECHNOLOGIES 1. Mobile Radio Propagation; Large scale Path Loss Small-Scale Fading and Multi-path Private radio networks for police, airports, irrigation, refineries using simplex and duplex communication. 2. GSM The Cellular Concept, System Fundamentals Modulation Techniques for Mobile Radio Equalization, Diversity, and Channel Coding Understanding hand-off, interference, trunking. Cell Splitting and sectoring in GSM, Spread Spectrum Techniques, Frequency Hopped Multiple Access 3. Packet switching X.25 protocol 4. Signalling System: SS7 5. Network Planning and RF Optimization explanation of terms: Quality of Service, Traffic Models, Network Optimisation and Mobility Management 6. INTRODUCTION TO TECHNOLOGIES Frequency bands available, basic standards, geographical usage, merits, demerits: GSM, CDMA, GPRS Circuit-switched networks Packet switching technology and networks IMS - a unified architecture for third generation mobile telephony: IMT 2000 Application areas opening up in 3G 3G Types: Universal Mobile Telecom System, WCDMA Blue Tooth, Wi Fi, Wi-Max MVNO: System, need and features References: -Wireless Communications principles and practice: Theodore S Rappaport : PHI Learning private ltd. -Wireless Network Evolution 2G to 3G: Vijay Garg: Pearson -Wireless Data Technologies: Vern A Dubendorf: John Wiley -Mobile Cellular Telecommunications: William CY Lee
9	TELECOM SYSTEMS & NETWORKS- I 1. Current technologies Prevalent status of technologies in network Block Diagram of a Telecom Network. Signalling, Routing 2. Transmission, Signalling: SS7, IPV4 & IPV VI, VOIP Networks: Introduction to Packet Network Signalling Protocols 3. Communication Media Communication Media: Copper , Fiber , Radio Satellite Communication Services: Phone, Radio, TV services, Educational Different Satellite services: Intel at, INMARSAT, USA, European 4. Carrier Access: Customer-to-Carrier Connections (E1, ISDN) Broadband Access (DSL, ADSL, VDSL2)

	5. Applications of Internet Protocol Multimedia System: Presence services, Full Duplex Video Telephony, Instant messaging, Unified messaging, Multimedia advertising, Multiparty gaming, Video streaming, Web/Audio/Video Conferencing, Push-to- services 7. 4G or Fourth Generation Networks: Drivers for evolution 3G to 4G 8. Carrier Transport Services SONET, SDH, Frame structure and working Using SONET Multiplexers WDM (wave Division Multiplexing) Optical Transport Network
10	USER SIDE EQUIPMENT & APPLICATIONS Telephone instruments, Fax, Key Systems Internet devices: Phone instrument, PC based radio, TV, Cable TV, Digital TV broadcast, Satellite TV Video Conferencing Mobile Phones, GPRS, 3G, multi-media applications Growth of multimedia and value added applications in Japan and India Blackberry, Access of email on mobile devices, value added applications Credit Card payment procedure by Banks: Secured payment process Electronic Fund Transfer by banks Telecom Applications in Tourism, ticketing, reservations, bank Automatic Teller Machines Smart Card Technology and applications: RFID, SIM, Retail, logistics – cargo container location and tracking Satellite phone and applications Use of Satellites in Education Broadband at home from service providers: applications and trends, use in education and entertainment: TV and games Communication with certified security.
11	TELECOM SYSTEMS & NETWORKS-II 9. Data Communications and Packet-Switched Networks : Protocols, transporting data between networks 10. Migrating Voice from Circuit-switched to Packet-Switched Networks 11. Carrier Data Services IP-Based Routing, Frame Relay, Connecting to Frame Relay Networks, Switching frames through the Network Asynchronous Transfer Mode, Using ATM as a backbone for Frame Relay Changeover from Frame relay and ATM to MPLS and IP handling protocol change 12. Remote Access Virtual Private Networks (VPNs) Types of VPNs Internet-Based Remote VPNs Internet Protocol Security :Encryption Modes for IPSec, Transport and Tunneling Secure Sockets Layer (SSL): Payment Systems in banking. 13. Video Technology and Services 14. Trends in Mobile Wireless Services GSM/GPRS/EDGE Networks International Mobile Telecommunications-2000 (IMT-2000) Universal Mobile Telecommunications System (UMTS) Standards Mobile Radio Technologies: Push-to-Talk. Subscriber Identity Mobile Networks. 15. Fixed Mobile Convergence (FMC): Application Benefits of FMC Wireless Operator's Strategy 16. Worldwide Interoperability for Microwave Access (WiMAX) 17. IP Multimedia Subsystem (IMS) Reasons, Functions, Architecture, Carrier Adoption of IMS of IMS

	Applications and Services Supported: POC , Unified Messaging, Instant Messaging (IM) , Web-Based Audio/Video Conferencing, gaming etc
12	NETWORKING 1. Network Components: Switches, Routers &c 2. Network Functions, Standards and Protocols 3. Media: UTP Wiring, Fiber Optic Cabling Systems, Wireless Networking 4. Ethernet : 10,100,Mbps and 1,10 Gbps 5. Switch Operation Overview: Flooding, Forwarding and Filtering Process, Switch Loop, Port Security, Spanning Tree Algorithm, VLAN Overview 6. Network Layer Process Overview, Session Handling Process, Supporting Processes 7. Net BIOS and Net BEU, Net BIOS over TCP/IP 8. Security - Network Security Overview: Authentication, Encryption, Intrusion Detection Systems - Content Filtering: Firewalls, Personal Firewalls, Packet Filters, Proxy Servers, Statewide Inspection Firewalls - Security Levels: Single, Double, Triple Protection - VPN - Develop a Security Plan: Vulnerability Assessment 9. User and Manager Processes: Terminal Emulation, File Transfer, E-Mail, Web Browsing, URL, Network Management 10. Wireless LANs, Wi-Fi: Spectrum, components, security regulations. 11. Networking Advances: IP Wireless and Video
13	OPERATIONS MANAGEMENT Billing Systems and commercial software Understanding Contractual Terms Tariff & Service Guide Relationships General Terms & Conditions Base Rates, Discount Rate Structures, Percentage Application, Volume achievement Discounts Fixed Rate Costs Credits & Provisional Waivers Validate Service Installation Service Location Continuity Service Location Identification Cost Allocations Voice Line Checks Traffic Analysis Service set-up Service policy Disaster avoidance plan Disaster management plan Maintenance contracts, budgets, expenses Quality Of Service Feedback to marketing, engineering Breakdown, Quality analysis Plan for service improvement Outsourcing select operations for reducing costs: Call centre, Billing, collection, security verification etc Outsourcing towers and maintenance Annual Technology plans Product Designs BPO, KPO, LPO, Call centre service models, Billing models

SERVICE MANAGEMENT

MANAGEMENT INFORMATION SYSTEM

Creating and maintaining a good MIS
 Invoice validation, error correction, and budget protection
 Contract negotiations and contract lifecycle management
 Managing service provider relationships and resolving disputes
 Service level agreements, service credits, SL Track-sheets, Up-time commitments

A) RECORD MANAGEMENT

Record Essentials: Service Location Identification, Service Provider catalogues, Invoice Listing, Service Detail Listing, Contracts
 Mining Service Details: Invoices, Identifying Service Components
 Customer Service Records, Analyzing Details
 Capturing Contract Catalogue Details
 Contract Duration Dates, Commitment Volume(s), Protection clauses, Service Level Agreements, Contract & Invoice Interpretation

B) ANALYSIS OF COSTS

Recurring Costs, Usage Costs, Traffic Types
 Taxes, Surcharges & Fees
 Installation, Provisioning: One-Time Fees, Equipment Leases
 One-Time Adjustments: Tariff Adjustments, Credits

C) UNDERSTANDING CONTRACTUAL TERMS

Tariff & Service Guide Relationships: General Terms & Conditions, Base Rates, Discount Rate Structures: Percentage Application, Volume Attainment Discounts, Fixed Rate Costs
 Credits & Provisional Waivers

D) Using Analysis Tools & Templates

Defining Data Field Requirements, Building Analysis Templates

E) INVOICE-TO-CONTRACT ANALYSIS & VALIDATION

F) BILLING ERRORS: Correcting, Resolving, Preventing disputes

G) SERVICE PROVIDER RELATIONSHIP MANAGEMENT

H) CONTRACT NEGOTIATIONS, CONTRACT LIFECYCLE

MANAGEMENT & BUDGET MANAGEMENT

I) BUDGET MANAGEMENT

Use past Reports to establish Historical Trending, Future Planning
 Analysis of Change: Impact on Budget, Contracts, Technical Requirements
 Documenting Budgets: Organizational Change, Changes in Usage, Changes in technology

J) DOCUMENTS, REPORTS & MIS

QUALITY MANAGEMENT

Development of Quality Management: Deming, Juran, Ishikawa, Crosby, Taguchi, Six Sigma. Quality Planning, Quality Control, Management of Process Quality, Productivity, Total Quality Management, Continuous Process Improvement, Supplier Partnership, Quality Re-engineering, Customer Satisfaction, Service Quality, Retention of customers, Benchmarking, ISO 9000, JIT, Management Tools Total Quality Management, Six Sigma, Training as a tool.
 Customer Service, Customer focused marketing, Customer Service Capability: Availability: Operational Performance, Reliability, Customer Satisfaction
 Cost-Effectiveness

References:

Total Quality Management: JE Ross

Total Quality Management: DH Besterfield, CB Michna: Prentice Hall.

PROJECT

Project connected with the course

TRAINING / PROJECT

The student will take up training in the industry. He will prepare a journal with non-confidential write-up which will be certified by the guide.
 Marks will be given on the journal and a viva-voce exam.

References:

- Many standards are best given in websites of respective institutions
- Broadband Wireless Mobile: 3G and Beyond : Willie V. (John Wiley & Sons)
- Cable Communications Tech : Bartlett E.R. (McGraw Hill)
- HSDP/HSUPA for UMTS : Holma Harri (John Wiley and Sons)
- Mobile Communication Hand book : Gibson J.D. (CRC Press)
- Radio Network Planning and optimization for UMTS :
Laiho J. (John Wiley and Sons)
- UMTS Networks Planning and Development : Braithwaite Chris
(Elsevier)
- Wireless Data Technologies : Dubendorf V.A. (John Wiley and Sons)
- Satellite communications : Roddy Dennis (TMG)
- Wireless Network Evolution : Garg Vijay K. (Pearson Education)
- Communication Networks Principles & Practice : Kasera Sumit (TMG)
- Web Technologies : Godbole Achyut (TMG)
- Optical Fiber Communications : Kesler Gerd (TMG)
- Mobile communication Engineering : Lee William C.Y. (TMG)
- Management Information System : Davies Gordon D. (TMG)
- Management Information System : Haag Stephen (TMG)
- 2.5 G Mobile Networks GPRS & EDGE : Kasera Sumit (TMG)
- Wireless Communication Principles and Practice : Rappaport T.S. (Prentice Hall)
- Operations management : Chase Richard B. (TMG)
- Electronic Communication System : Kennedy George (TMG)
- Data Communications & Networks : Godbole A. S. (TMG)
- Analog & Digital Communication : Hsu H.P. (TMG)
- Television & Video Engineering : Dhake A.M. (TMG)
- Local Area Networks : Kesler Gerd (TMG)
- Communication Networks : Garcia A.L. (TMG)
- TCP / IP Protocol Suite : Forouzan B.A. (TMG)
- Data Communications & Computer Networks : ISRDA Group (TMG)
- Data Communication & Networking : Forouzan B.A. (TMG)
- Local Area Networks : Forouzan B.A. (TMG)
- Mobile Cellular Telecommunication : Lee W.C.Y. (TMG)
- Management Information System : Jaiswal M. (Oxford University Press)
- Fundamentals of Information Technology : Bharihoke D (Excel Books)
- Operating System : Deitel H.M. (Pearson Education)
- Quantitative Research Methods for Communication : Wrench J.S. (Oxford University Press)
- Cases in Management Information system: Mohapatra S. (Prentice Hall)
- Service Marketing: Srinivasan R. (Prentice Hall)

11/02/2009

FEE STRUCTURE

P.G. DIPLOMA IN TELECOM MANAGEMENT

SEMESTER	1	2
NO. OF STUDENTS		
TUITION FEES	Rs.	Rs.
LIBRARY FEES	21300	23500
EXAM. FEES	200	200
LAB FEES	800	800
JOURNAL		
INPLANT		
STUDY MATERIAL	200	200
COMPUTER	500	300
PLACEMENT	1000	
PG REGISTRN FEES	1000	
ECHARGES	825	
ELIGIBILITY/ENROLMENT	20	
GYMKHANA	220	
TOTAL FEES	125	
LIBRARY DEPOSIT	26190	25000
	100	