PANJAB UNIVERSITY, CHANDIGARH-160014 (INDIA) (Estd. under the Panjab University Act VII of 1947-enacted by the Govt. of India)

SYLLABI FOR MASTER OF BUSINESS ADMINISTRATION (MBA) FOR THE EXAMINATION OF 2012-13

Note:

- 1. Examination in each subject will be of 3 hours duration.
- 2. Maximum Marks for external/written examination is 50 marks and internal assessment is

<u>Note</u>:- The student has to continue with the functional group opted by him/her in the 3rd Semester and opt for two papers out of the papers offered.

FOURTH SEMESTER

SUBJECT

PRINCIPLES AND PRACTICES OF MANAGEMENT

Credit = 4 Marks = 100

Objectives: A o tvot papr s to a quant t stu nts wtt portan o ana nt n our a to a p stu nt to tra t vout on o ana nt t ou t an appr at t var ous un t ons o ana nt-

SECTION - A

Management. D nt on natur purpos an s op Fun t ons o a ana r Et s an so a r spons t o ana nt r an at ona Env ron nt-

SECTION - B

Evolution of management thought Contrut on a a o C strB rnar 11 rt an Gr or trF-

BUSINESS STATISTICS

Credit = 4 Marks = 100

Objectives: D s on a n s a s p un t on o ana nt-Data n to ana ass an nt rpr t to a tat s on a n - tat st a Ana s s s a un a nta t o o quant tat v r ason n or ana r a s on a n - L o t v o t ours s to qu p t stu nts w t t n qu s or ata ana s s

SECTION - A

Classification of data and construction of Frequency Distribution: Grap
Introduction of Descriptive Statistics:

asur s o C ntra L n n

asur s o D sp rs on an

uart D v at on an D v at on an tan ar D v at on wn ss urtos s—

Index Numbers: D n t on an t o s o Construt on o In u rs L sts o Cons st n

Bas

s t n p n an D at on ro s n Construt on I portan o In u rs n ana r a

D s on a n —

SECTION - B

Theory of Probability: Bas on pts A t v an utp at v u I a o Con t ona roat Con pto ano ara ants at at E p tat on—

Objectives: Lot vot paprs to rat La Awarnss to v posur to varous aws an ats w av pat on us nss an nustr to v nputs rat n to pro ur o start nanwo pan — La papra so a s to a t stu nts un rstant on pt o Et s an ts ro ns

WORKSHOP ON SOFT SKILLS

Credit = 2 Marks = 50

SECTION - A

Credit = 4Marks = 100

Objectives: A ana ot paprs to un retant natur tas sant nv ron nt un rw ar tn op rat s to stu t t or prn p san prat a asp ts o var ous ar tn un tons an to arn to ta ar tn s ons—

SECTION - A

Custo r ar ts **Introduction to Marketing:** D n t on op an I portan o ar t n Con pts osop so ar the Ho st ar the Con pt ar the Lass ar the Marketing Environment: ar the Environ nt war the ats we Consur Capa ts D o rap Env ron nt o a Cu tura Env ron nt atura Env ron nt L no o a Env ron nt an otal a Environ nt ♣ ana s s-

SECTION - B

Analyzing Markets: ar tn s ar ro ss our so ata o ton a tors n u n n Consu r av or Bu n D s on ro ss ost ur as B av or ranatona Bun tasnt Bun ro ss-

Market Segmentation: Lev so ar t ntat on s nt n onsu r ar ts ar t n s nt n us n ss ar ts a ort r s F v For s o Ana n o p t tors strat s or ar t a rs Lar tn an ostonn –

SECTION - C

Product Decisions: ro u t ara t r st s r nt at on pa a n an a n rout ass at ons L C

Pricing Strategies: n rstan n r n $tt \ n \quad t \quad r \quad In \ t \ an \quad spon \ n \quad to \quad r \quad C \ an \quad s$ a t ons to Co p t tor s r C an s-

SECTION – D

Paper Code: MBAPM-2004 HUMAN RESOURCE MANAGEMENT Credit = 4
Marks = 100

Objectives: A o tvot paprs to a stunts awar ot varous untons an portan ot Hu an sour part nt nan or an aton—It s as a on rn wt anant u an r sour s w r t un r n o tv s to attratrtan an ot vat t u an r sour s n an or an aton w st ost a n n an aunt n tas or an or an aton to a —

SECTION – A

Introduction to HRM: an n Fun t on op o H I portan o H H an H D a o parat v ana s s t^4 n vs-sta aut or t C a n s o Hu an sour ana nt
Job Analysis and Design: Con pt o Jo Ana s s an D s n t o t^4 = t^4 = t

WORKSHOP ON MANAGEMENT INFORMATION SYSTEMS

Credit = 2 Marks = 50

Objectives: Les ours of risa on un ristant not as so Information steel s—It as the new solution of the second seco

SECTION - A

SECTION - B

Microsoft Access. Crat n an op n n ata as I port n ata La s s F na s Data t p s

Paper Code: MBAPM-2006 SEMINAR ON RESEARCH METHODOLOGY Credit = 2
Marks = 50

Objectives: A ano tvots su t s to p t stunts to un rstant natur s op o p t s an pro ss o n n a us n ss r s ar qu st on—A arn n o us s on v op n us n ss r s ar s s to un rp n t approa ta n to a wor nt rat pro t—

SECTION - A

INDUSTRIAL PHARMACY AND PHARMACEUTICAL TECHNOLOGY

Credit = 4

Paper Code: MBAPM-2008 QUALITY ASSURANCE AND INVENTORY MANAGEMENT

Paper Code: MBAPM-3001 PROJECT PLANNING AND ANALYSIS

OPERATIONS RESEARCH AND TOTAL QUALITY MANAGEMENT

Credit = 4 Marks = 100

Objective: Lo un rstan t as on pts o op rat ons r s ar an ts usa or us n ss ana rs—L pap r a so a s w t un rstan n Lota ua t ana nt

Credit = 4Marks = 100

Objectives: \mathcal{A} o tv o t su t s to a stunts a ar wt and o u s ru s ava a n t u ar t or var ous a u nts an u to v to v ran s u to vru s–A so t su tt rows a tont urr nt s nar o o t o a ran s n ar a ut a n ustr vn an ns tto stn s naro-

SECTION - A

Introduction and General Pharmacology: Intro u ton to t as s p ar a o na s p ar a o nts-rnpso unoo Avrs Dru atons an Cna Looo ar ao no s ar a o n t s ar a o na s n Dru D v op nt-Autonomic Nervous System: rn p s o urotrans ss on a rn r p ar a o o o n r paraoo –

SECTION – B

Analgesics: Ant In a ator Dru s Ana s s-

Respiratory and Gastro Intestinal System Drugs: La at v s Anta s A ontro n ru s Bron o ators E p torants u o t s-

Cardiovascular System: Ant. prt ns v s D ur t s ant. p Dru s an na s o - CNS: Dru s or na D pr ss on Dru s or s op r na op r na Ep ps t -

Endocrines: Ant a t a nts ort ost ro -

SECTION - C

Anti-infectives and Anti-neoplastic Drugs: G n ra C ara t r st s n qu us s an ro s, Ant s pt s an Dsn tants st at Ant ro as Ant o at ras Ant un as an Ant vras, Ant n op ast Drus Dv op nt s ar an Co nat ons, ara t s I un n a nts-

SECTION – D

Best Selling Drugs-Globally & in India: An overvow of the urrent signator of the uture of the u

Suggested Readings:-

- Digr pat Ess nt a s o a ar a o o Ja p Brot rs-2- a arEa.Cna araoo CCrss-
- G rt -Ban ran C r stop r 1. o s, o rn ar a ut s ar D r Dru s Fro D s ov r to Approva B a w a J a a ar a o o at a G an B a w u s n
 n ton 1. n an rat o ar a ot rs uw r -

- HH- qu Ess nt a s o a ar a o o G o a

Paper Code: MBAPM-3004 PHARMACEUTICAL MARKETING Credit = 4
Marks = 100

Objectives:

Paper Code: MBAPM-3005 BRAND MANAGEMENT

INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT

Credit = 4Marks = 100

SECTION-A

Introduction to Investment Management: Con pt an o tvs o nvst nt D r n tw n
Invst nt an p u at on Invst nt an Ga n an n o Invst nt ana nt Invst nt
ana nt ro ss Invst nt At rnat vs F atur s o Invst nt Av nus 4 ps o ana nt
trat s Approa s to Invst nt—

Risk and Return: Con pt o s Co pon nts o Invst nt s asur nt o s t rou tan ar
D v at on r ss on Equat on Covar an Con pt o turn E pt Y A tua Y Ho n
r o Y at ons p tw n s an turn An ques Descurity: a uaton o Equit ar s. Ba an the new state at very language of the new state of the new st a uat on _rp_tua

SECTION-B

Efficient Market Theory:

Paper Code: MBAPM-H-3008 INTERNATIONAL HUMAN RESOURCE Credit = 4
MANAGEMENT Marks = 100

Objective: 4. o tv ot sours sto v stu nts a opt posur to a asp ts o Int rnat ona
H -4. ours p as s portan o Hu an Capta n t or an at ons o to a -It a so prov s a
o pr ns v ov rv w o Int rnat ona Hu an sour and nt IH prat s n us
IH pratt onus n 4th t4nat ona -nt2rpr s s-t6A 4-r. Kp-9-29 ts 47-Dw22 -29 2-9 4 s 2- 44 2 u 2 - 9 cards - 9 s 2- 4 9-2 4 p 2 - 9 4-42 - w, 2 - 4 I, 9 - 9 o 2 -

Paper Code: MBAPM-O-3009 SUPPLY CHAIN MANAGEMENT Credit = 4
Marks = 100

Objectives:

Objective: $A \circ na$ t stu nts to un rstan ost ana nt s st an $v \circ p$ an ns t nto app at on o ost ana s s ro strat $p \circ p \circ t \circ v$

SECTION – A

Strategic Cost Management. an n atur an n an o trat Cost ana nt 1/2 tat ons o 1/2 to na Cost n D r n tw n Conv nt ona Cost Ana s s an trat Cost Ana s s F nan a p rat ona an trat ws o Cost Cont porar Cost ana nt 1/2 o s A t v t Bas Cost n an Activity Based Management. 1/2 at nt o Cost t ps A vanta s D sa vanta s -

SECTION - B

Value Analysis. ann o au Anassan vau a ton trat App at on o au Can Anass-

Strategic Positioning Analysis, Cr t a u ss Fa tors an A Ana s s-

Cost Volume Profit Analysis. Cost B av our att rn Cost Est at on tos Assu pt ons o C Ana s s App at ons o C Br a Ev n Ana s s C Ana s s n t o o Cost tru tur u t p ro u t Ana s s –

SECTION - C

Variance Analysis. Bas so tan ar Costs at ra ar an state our ar an s vra ar an s D ut s n asurn ar an s Eva uat on o Contro as on tan ar Cost n u ra ro s Valuation of Intangible Assets. an n o Intan Ass ts A quran G n rat Ass ts I portant os o a uat on or Goo w Hu an sour Brans at nt vant In an an Int rnat on a ount n stan ar s Curr nt nar on In a u ra ro s-

SECTION - D

Responsibility Accounting: A t v t as spons t A ount n B av our asp ts o r spons t a ount n 4 rans r r n -

Performance Evaluation. Ara tona Fra wor o ror an Eva uaton ror an asur nt st Ba an or ar I p ntat on trnts an anssso Ba an or ar B av ora ws wars topror an In nt v Co p nsat on—

Productivity improvement. ar ous too's an t n qu's n u n a n an a-

Suggested Readings:

- Jo n - an a Gov n ara an trat Cost ana nt Fr r ss-2- Ca B r n r Cost ana - 2 9-2 9 - 2 - 2 7 92 92 19-2 t 4 94 - 2-2

Marks = 100

Objective: A a o t s ours s to prov va ua ns t n ana n an n su a wa t at now an s s ar trans rr to u t or an at on s apa t to a v oa s an so v pro s-It proves a retea assesse nto test processes and so rean atoma Developent D an va uat t ran o D Int rv nt ons-

SECTION – A

Introduction to OD: D n t ons o r an at ona D v op nt D Growt an van o D-History of OD: L La orator Lrann urv s ar an F a A t on s ar o o t n a an o o n a ara s on G n rat on D-Underlying Assumptions and Values: Assu pt ons a out p op as n v uas Assu pt ons a out p op n roups an a out a rs p Assu pt ons a out p op n or an at ona s st s Assu pt ons t at r at to va u s n t nt or an at on a u s an s st o av ora s nt st an a nts—

Foundations of OD: o s an \(\mu\) or s o ann C an st s \(\mu\) or art pat on an E pow r nt \(\mu\) a s an \(\mu\) a wor ara \(\mu\) arn n tru tur s or at v u at v trat o an n App

B av oura n At on s ar an art s o At on s ar —

SECTION - B

OD Interventions - An Overview: A ntono Dnt rvnt ons natur o Dnt rvnt ons t a or a so D nt rv nt ons ass at on s at a or D nt rv nt ons-Team Interventions: Las an or Groups trat nts o ran at ons La Bu n Intrv nt ons t Fa Group D a nost tn A Fa Group A a Bu n tn Ana s s L n qu Int rv nt on o ot at on L n qu spons t C art n t For F Ana s s L n qu G sta t r ntat on to L a Bu n -Intergroup Interventions and Third- Party Peacemaking Interventions: Int r roup & a Bu n Intrv nt ons A r art a a n Intrv nt ons r an at on rror Intrv nt ons artn r n -

SECTION - C

Personal, Interpersonal and Group Process Interventions: E po E pow r nt ns t v t Ara n n La orator s A Jo ar now o Aransa tona Ana s s B av or o qu

 $\begin{aligned} & Credit = 4 \\ & Marks = 100 \end{aligned}$

Objective: L o t v o t s ours s to r at n pt un rstan

Objectives: A su twou na t stu nts to un rstan t para trs o a ounta t ontro an r port n s st t orporat oar an a so p t stu nts to av an ns t nto t nt ra t v r at ons p a on var ous orporat an r at onst tu nts n t r n n r t ons an p r or an o us n ss or an sat ons—

SECTION - A

Corporate Governance: Intro u t on an v rv w—
Corporate Board. Attr ut s Dut s spons t s Va t s ap n D r tor a Co p t n an Boar
E t v n ss F nan a Inst tut ons an o n D r tors—

SECTION - B

Corporate Governance and Security:

Paper Code:MBAPM-4003WORKSHOP ON DEVELOPING
ENTREPRENEURIAL SKILLSCredit = 2Marks = 50

ADVANCED SUPPLY CHAIN MANAGEMENT

Credit = 4Marks = 100

Objectives: A s o u s nt n to prov ns ts nto t strat ro o upp C a n ana nt n ar a ut a n ustr –

SECTION - A

Introduction to SCM: at ra Han n asta_Contro, a n a a n, n or ana_ Inv ntor s Just n A JIA, our n s on n upp C an s t on o sour t n a up ra at on o v n or v n or p r or an va uat on v n or rat ona at on, trat sour n, upp r at ons p ana nt , Contra t or pro u t ava a t -

SECTION - B

SECTION - C

Reporting Tools and Export-Import Procedures: port n toos or nan n C , F nan a supp a n ana nt un a nta toos, Au t an ontro o str ut on, I port ro ur s, E port ro ur s, Inv ntor Contro an ts I pa t on turn on Inv st nt-

SECTION – D

IT & SCM: Co or nat on nt upp C a n, In or at on A no o t upp a n, us n ss t supp a n usfa n n Co n t t v a vanta C pro ss nt rat on p r or an asur nt an supp a n, usta n n Co p t t v a vanta C pro ss nt rat on p r or an utur supp a n, E tron Data Int r an EDI E Co r Bar Co n L no o -

Suggested Readings:

- ona H–Ba ou a r rvastava. Bus n_ss 💪 st s upp C a n ana _ nt _arson
- 2- o ant oupp C an ana nt A or san rat B tantra Innovat on n ana nt-- ar a u arn an As o ar a upp C an ana nt Crat n una s or Fast r Bus n ss Aurnaroun Aata Graw H -
- 4- Hara D o ta E-, upp Can ana ntan vrs 16 st s prn r In a-- Jon-14- ntr s, Fun a nta o upp Can ana nt 14 w v Dr vrs o Coptt v A vanta spons Boo's a u at on-
- _ Ja as r_Du an _ 44 a u ar E upp C an ana nt II EH ra a an w C ntur u at on-
- o rt B– Han an Ern st 🛂 o as Jr–, Intro u t on to upp C a n ana nt arson E u at on-
- -B--a a $E-\cdot E$ r n Issus n upp C an ana nt a

Paper Code: MBAPM-4008 PATENTS AND DRA Credit = 4
Marks = 100

INTERNATIONAL BUSINESS **MANAGEMENT**

Credit = 4Marks = 100

Objective: Ao n t n t stu nts on Int rnat ona Bus n ss Env ron nt w n u s nt rnat ona ar t n an to stu t pa t o o a at on on In an In ustr –

SECTION – A

Introduction to International Business: D na s o Int rnat ona Bus n ss Int rnat ona Ara A or s an Bus n ss I p at ons ro ss o G o a at on G o a Bus n ss Env ron nt or ar t n Env ron nt o t a 🛂 a Cu tura o a s o o a ns ons—

SECTION – B

Strategies and Structures of International Business: Int rnat ona Bus n ss trat s r an at ona tru tur s an trat s o Int rnat ona Bus n ss Int rnat ona Entr trat s trat s A an s o o GALL L -

SECTION - C

Marketing: ann n or Int rnat ona ar t n v rs as ar t n s ar an In or at on st For n ar t Entr trat s Int rnat ona p rat ons ana nt ann n or Int rnat ona ar t n v rs as ar t n s ar For n ar t Entr trat s D s ons ro u t Bran n a a n r n D str ut on an a s a s an ro ot on D s on—

SECTION - D

Emerging Issues: E r n E ono s E us n ss p rat n n a Bor r ss or E port ro ot on E port o u _nts an ro _ ur_s E port s Insuran _ a or pro _ s o In an E port _ tor—

Suggested Readings:

- Jo n D–Dan s a au an u van, Int rnat ona Bus n ss Env ron nt an op rat ons arson E u at on-
- 2- a CZnoaA- on an nan a H- o tt. Int rnat ona Busnss- - Lo r Cavs t Gar n t an Jon s n r r. Int rnat ona Busnss strat ana nt an t n w r a t s arson E u at on-
- 4- a s o an Jos . Int rnat ona Bus n ss or n v rs t r ss-
- -B at. Int rnat ona Ira an F nan a Env ron nt Ann Boo s-
- A an u an ar -Ho tts, Int rnat ona Bus n ss trat ana nt Approa 🚣 ata
- Jo n at nussan, Aransnat ona Corporat ons n a D v op n E ono A In an E p r n a u at ons-
- B nn tt o r. Int rnat ona Bus n ss t an u s n -
- 9- Fran s C run a Int rnat ona E ono s Lata Graw H -
- - D t Env ron nta Fa tors vant or trat For u at on In an ana nt Asso at on--A-G u Bus n ss o an trat ana nt Graw H -

Paper Code: MBAPM-F-4010 INTERNATIONAL FINANCIAL MANAGEMENT

 $\begin{aligned} & Credit = 4 \\ & Marks = 100 \end{aligned}$

INDUSTRIAL RELATIONS AND LABOUR LAWS

Credit = 4 Marks = 100

Objectives: $\mathcal L$ and nto pos of nvua an otv ransantra at uro oran at ona - $\mathcal L$ so ours san att pt to un retant on ptua an a asptso por at one att a roan rovs-

SECTION - A

Overview of Industrial Relations: Con pt o I atur o I t v s o I Evo ut on o I n In a A or s o I st s approa to I –

Trade Unionism: Con pt o Ara nons Fun tons o Ara nons Approa s tru tur s o Ara nons—

The Trade Unions Act, 1926: Ara non strat on o Ara nons ts an Ua t so r st r tra un ons—

SECTION - B

Grievance Handling: Gr van Caus s our s o Gr van s Gr van r ssa a n r 4 s at v
Asp ts o t Gr van r ssa ro ur n In a Do st nqu r –

The Industrial Disputes Act, 1947: In ustr or an In ustra D sput t o s an aut or t s or t s tt nt o n ustra sput s tr s an 4 o outs 4 o an tr n nt —

Collective Bargaining: Con pt an n t v s o o t v ar a n n ot at n t n qu s an s s ro sso o t v ar a n n I pa to Co t v Bar a n n —

SECTION - C

The Workmen's Compensation Act, 1923: or an E pors at topa opposition D sa nt A ount o opposition—

Tripartite and bipartite bodies. or rs art pat on n ana nt-

Factories Act, 1948: Fa tor or r anu a turn pro ss rov s ons o at a t an or n ours o a u ts p a prov s ons r at n to r n Annua av w t wa s-

SECTION – D

Industrial Relations and emerging scenario. In ustra at ons an t no o a an Int rnat ona that our ran sat on It is tysan trutur. Futur of In ustra at ons

Standing Orders Act, 1948: tan n or rs C rt at on o rat stan n or rs Durat on an o at on o rt or rs—

Employee's State Insurance Act, 1948: Contrut on rn p por I at por D rnt n ts—

Suggested Readings:

- nu au La our In ustra Law A a a a Law A n -
- 2- s ra. La our In ustr a Law C ntra Law u at ons-
- C-B- a or a an Gan ar a or a D na so In ustra at ons H a a a u s n Hous-
- 4- n ata atna . In ustra at ons or n v rs t r ss-
- A- onappa, In ustr a at ons Lata Graw H -

_

Objectives: A su ta sat prov na o pr ns v ov rv w o app at ons o Ent rpr s sour ann n or us nss ana rs-It wou a so a quant t stu nts w t t now o o put r pro u t on at ra str ut on s st o a anu a tur n or an at on an ana s t utur prosp ts r ar n E ar ts-

SECTION - A

rv or nt ar t tur –

SECTION - B

E strat opt ons an rs t at on-

SECTION - C

Implementation of ERP. I p ntat on p an o E to s an toos Busnss pross app n Gap anassrssan p n n s rott n p an rotor an at on p an trutur an on Datarat on an stor a ror rotor p t st n s r tra n n prora now ana nt D sast r rovr p an DB Datao un at ons st Har war r qur nts a p s st ar t tur –

SECTION – D

ERP Project Success and failure. Intro u t on to E ro t su ss an a ur w t as stu s Curr nt ar t a rs an ar t ar s ar t Issu's Cont nuous us n ss prov nt n E –

Suggested Readings:

- A- an : Ent rpr s sour ann n ar t u s rs-2- no u ar Gar an -- n ta r s nan, Ent rpr s sour ann n Con pts an ra t

Credit = 4 Marks = 100

Objectives: Lootvs ot ours ar to a quant t stunts wtt ntr ran oon pt unantas an pratats of in ustra ar tn an rura ar tn -Lours a sat part nt now a out nustra ar tn an a so to or nt stunts to trats or rura ar tn n In a ts strnts wanss sopportunts an trats nt an noa ont t-It wou nat arristo un rstan as to owt ar tn strat s ar rnt n n ustra ar ts as o par to onsu rar ts-

SECTION - A

Paper Code: MBAPM-F-4014 MANAGEMENT OF FINANCIAL SERVICES Credit = 4
Marks = 100

SECTION - A

Financial Services. Intro u t on o F nan a Int r ar s an F nan a rv s r an sat on o t

Credit = 4Marks = 100

Objectives: A s ours a s at prov n t un rstan n o on pts t n qu s an att tu r qu r or tv ana nto pro u tvt no rnor an atons-

SECTION - A

pro u t v t =

Sources of productivity. La or ap ta n nus o a or an apta pro u t v t an stan ar o

SECTION - B

Measurement of Productivity. ro u t v t routvt asur nt an ts n Aota proutvt o ut tat ons o parta asur so pro ut vt ro ut vt valuation n or an at ons ro ut vt an n ustra r at ons-

Productivity and business cycles: C a pattrno a or proutvt ar t paton proutvt –

SECTION - C

SECTION - D

Productivity and Government Policies: routvt trnsnst nustrs, nnrn rt t san nnr I pato ov_rn_ntpo _sonproutvt— Productivity differences among countries: Int mat ona rns na or pro utvt ro o ntra p ann n _ rrors an us n _s on pro u t v t -

Suggested Readings:

- D-J– u ant, rout vt En n r n an ana nt Graw H –
- 2− − Bra anan a, routvt nin an Eono Hi a a u atons−
- C an ra. D na so rout vt out u s r-
- 4- oo on Farant. Apr ron rout vt rnt Ha In a-
- ro op n o, ro u t v t ana nt or IBH-- r rat G-D- ar ano an B- a a, ro u t v t ana nt A st s Approa arosa u s n Hous -
- atna ar G a . In an In ustr rout vt ana nt An o u at ons-