



PANJAB UNIVERSITY, CHANDIGARH-160014 (INDIA)

Est. 1962

SYLLABI

FOR

BA B GE E A FI YEA
E E E Y E
EXA I A I
E E E FI A D EC D

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CH. E F I G B. EC
B.A./B.Sc. (GENERAL) FIRST YEAR (SEMESTER SYSTEM)
EXA. I A I

B A G n rst Y rst rst stst stu- pro rst ons sts o t r o. pu sor
su ts n- t rst su tsst
Co. pu sor su tsst

- (a) Punjabi
OR
History & Culture of Punjab
- (b) English
- (c) Environment, Road Safety Education, Violence
-

10. ** *Elective Vocational Subject (one of the following) :* *Pre-requisite subject at +2 level*

1. Mass Communication –Video Production Any

F B C G E A CA DIDA E

(Besides the compulsory subject, a student shall offer any three elective subjects)

A

Guidelines for continuous internal assessment (10%) for regular students of Under-Graduate courses (semester system):

Criteria for Internal Assessment

- | | | | |
|-------|---|---|----|
| (i) | Class test | = | 5% |
| (ii) | Academic Activities (Seminar, Project, Assignment) | = | 3% |
| (iii) | Attendance | = | 2% |

For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will be proportionately be increased to maximum marks of the paper in lieu of internal assessment.

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BA-B GE E A FI YEA E E E Y E FI E E E
E BE DECE BE A D EC D E E E A T AY EXA I A I

E G I H Co-processor

E E E I

Max. Marks : 50
Theory : 45 marks
Internal Assessment : 05 marks
Time : 03 Hours

t r s r

En s t or (Selection from Poetry & Prose), Eds T. Vijay Kumar

E G I H Co-processor
E E E E II

| | | |
|---------------------|---|----------|
| Max. Marks | : | 50 |
| Theory | : | 45 marks |
| Internal Assessment | : | 05 marks |
| Time | : | 3 Hours |

Text Book

English (Selection from Poetry & Prose), Eds T. Vijay Kumar, B. T. Seetha, A. V. Suresh Kumar, Y. L. Srinivas, New Delhi: Macmillan India Ltd. 2012, revised edition.

Poems = 5-8

Prose Chapters = 5-8

Part A

- Q.1. Reference to the Context from Poetry and Prose. **Two** out of **four** passages to be attempted One each from Poetry and Prose. **16 Marks**
- Q. 2. Questions from poetry in not more than 50-60 words. **Two** out of **three** to be attempted. **6 Marks**
- Q.3 Essay type question from Prose in not more than 100-120 words **Two** out of **three** to be attempted. **6 Marks**

Part B

- Q.4. Letter Writing (Personal only) **6 Marks**
- Q.5. Grammar : Narration, Preposition, Conjunctions, Synonyms **6 Marks**
- Q.6 Comprehension of Unseen Passage **6 Marks**
- Q.7. Translation from Hindi to English. **Four** out of **six** sentences (only idiom based) **6 Marks**

OR

For foreign students Paragraph Writing on Proverbs in not more than 100 words.

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HISTORY OF THE EARLY HISTORY OF THE REGION

For B.A. and B.Sc.

General Education - Early History of the Region

As per the syllabus of the Board of Secondary Education, Hyderabad

- Objectives: To introduce the students to the history of the Early History of the region.
- Mode: Lectures, library work and discussions.

UNIT I: EARLY HISTORY OF THE REGION

1. The syllabus has been divided into four Units.
There shall be 9 questions

n t I

Ancient Punjab : Physical features; impact on history

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

HI P A D C E F AB
A C m t s o t r t n B A
E E E P

HI P A D C E F AB F HE EA HE E E
I C I F HE A E E E A D C A D I D A E F A E h s st r A D

1. The syllabus has been divided into four Units.
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 10 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 5 short answer type questions. Each question will carry 1 mark. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each unit IV in all. Each question will carry 10 marks.
2. For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
p p r s t t r u s t p u t n o t n t q u s t o n p p r
3. One question from Unit-IV shall be set on the map.

E p n t o n'

1. Each essay type question would cover about one-thir

UNIT II

4. Society and Culture under Maurayas and Guptas.
5. Bhakti movement: Main features; prominent saints and their contribution.
6. Origin and development of Sufism.

UNIT III

7. Evolution of Sikhism: teaching of Guru Nanak; Institutional Development- Manji, Masand, Sangat and Pangat
8. Transformation of Sikhism: Martyrdom of Guru Arjan; New policy of Guru Hargobind, martyrdom of Guru Tegh Bahadur.
9. Institution of Khalsa: New baptism; significance

UNIT I

10. Changes in Society in 18th century: social unrest; emergence of misls and other institutions - rakhi, gurmata, dal khalsa.
11. Society and Culture under Maharaja Ranjit Singh.
12. MAP (of undivided physical geographical map of Punjab):
Major Historical Places: Harappa, Mohenjodaro, Sanghol, Ropar, Lahore, Amritsar, Kiratpur, Anandpur Sahib, Tarn Taran, Machhiwara, Goindwal, Khadur Sahib.

REFERENCES

1. Joshi, L.M (ed.) : History and Culture of the Punjab, Part-I, Publication Bureau, Punjabi University, Patiala, 1989 (3rd edn.)
2. Joshi, L.M and Singh, Fauja (ed.) : History and Culture of the Punjab, Vol. I, Punjabi University, Patiala, 1977
3. Prakash, Buddha : Glimpses of Ancient Punjab, P.U., Patiala, 1983
4. Thapar, Romila : A History of India, Vol. I, Penguin Books, 1966
5. Basham, A.L : The Wonder That was India, Rupa Books, Calcutta (18th rep.),1992
6. Sharma, B.N : Life in Northern India, Munshi Ram Manohar Lal, Delhi, 1966
7. Singh,Kirpal : History and Culture of the Punjab, Part II(Medieval Period), Publication Bureau, Punjabi University, Patiala 1990(3rd edn.).
8. Singh, Fauja(ed.) : History of the Punjab, Vol.III, Punjabi University, Patiala 1972.
9. Grewal, J.S. : The Sikhs of the Punjab, the New Cambridge History of India, Orient Longman, Hyderabad,1990.
10. Singh, Khuwant : A History of the Sikhs, vol I: 1469-1839, oxford University Press,. Delhi, 1991.

11. Chopra, P.N.,Puri, B.N. : A Social, Cultural and Economic History of India, Vol.II, Macmillan, Delhi
And Das,M.N. 1974.
12. Hussain ,Yusuf : Glimpse of Medieval Indian Culture, Asia Publishing House, Bombay,
1973(rep.).

ot ' The following categories of the students shall be entitled to take option of History & Culture of Punjab in lieu of Punjabi as compulsory subject:

- A. That the students who have not studied Punjabi upto class 10th.
- B. Ward of/and Defence Personnel and Central Govt. Employee/Employees who are transferrable on all India basis.
- C. Foreigners

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B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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A C n s o t r t n B A
E E E H

HI A DC F ABI HEC IA A D I DE E DE CE
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I C I F HE A E E E A D CA DIDA E F A E s t r A D

1. The syllabus has been divided into four Units.
There shall be 9 questions in all. The first question is compulsory and shall be short answer type containing 10 short questions spread over the whole syllabus to be answered in about 25 to 30 words each. The candidates are required to attempt any 5 short answer type questions. Each question will carry 1 mark. Rest of the paper shall contain 4 units. Each Unit shall have two essay type questions and the candidate shall be given internal choice of attempting one question from each unit IV in all. Each question will carry 10 marks.
2. For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be inc

I I

1. Introduction of Colonial Rule in Punjab: Annexation of Punjab; Board of Administration.
2. Western Education: Growth of Education and rise of middle classes.
3. Agrarian Development: Commercialization of agriculture; canalization and colonization.

I II

4. Early Socio Religious Reform: Christian Missionaries; Namdharis; Nirankaris.
5. Socio Religious Reform Movements: activities of Arya Samaj; Singh sabhas; Ahmadiyas; Ad Dharam Movement
6. Development of Press & literature: growth of print technology; development in literature

I III

7. Emergence Of Political Consciousness: Ghadar Movement; Jallianwala Bagh Massacre
8. Gurudwara Reform Movement; major Morchas; Activities of Babbar Akalis.
9. Struggle for Freedom: Non Cooperation Movement; HSRA and Bhagat Singh; Civil Disobedience Movement; Quit India Movement.

I I

10. Partition and its Aftermath: resettlement; rehabilitation
11. Post-Independence Punjab: Linguistic Reorganization; Green Revolution.
12. MAP (physical geographical map of undivided Punjab): Major Historical places: Delhi, Kurukshetra, Jaito, Ferozepur, Ambala, Amritsar, Lahore, Ludhiana, Qadian, Jalandhar, Lyallpur, Montgomery.

u st r- r- n s'

1. Singh, Kirpal : History and Culture of the Punjab, Part II(Medieval Period), Publication Bureau, Punjabi University, Patiala 1990(3rd edn.).
2. Singh, Fauja(ed.) : History of the Punjab, Vol.III, Punjabi University, Patiala 1972.
3. Grewal, J.S. : The Sikhs of the Punjab, the New Cambridge History of India, Orient Longman, Hyderabad,1990.
4. Singh, Khuswant : A History of the Sikhs, vol I: 1469-1839, oxford University Press, Delhi, 1991.
5. Chopra, P.N.,Puri, B.N. : A Social, Cultural and Economic History of India, Vol.II, Macmillan, delhi, 1974.
And Das, M.N.

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

E C O N O M I C S

DR. I. ABEYA CEFERAL THE EXAMINER

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B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

Unit III

Cultivation practices including soil requirements,

AGRICULTURE

ENTOMOLOGY

Practical Entomology - Aeronautics

Max. Marks : 75
Theory : 70 marks Internal
Assessment : 5 marks Time
: 3 Hours

1. Theory - Six of 45 minutes duration each.
2. Practical - Two of three hours duration.

Unit III

Storage of vegetables, Fruits, Grains at local and large level.

Vegetable and fruit preservation.



Books

1. K.T. Acharya : *Every Day Indian Processed Foods*, National Book Trust, New Delhi (2008).
2. Malkit Nagi and Satinder Bajaj : *Home Preservation of Fruit and Vegetables*, P.A.U., Ludhiana (2008).
3. ICAR : *Hand Book of Agriculture*, New Delhi.
4. T.D. Biswas and S.K. Mukherjee : *Text Book of Soil Sciences*, Kalyani Publishers, Ludhiana (2008).
5. Girdhari Lal, G.S. Siddappa and : *Preservation of Fruit and Veg*Prese.78252(.)-3.0120894(i)()-3.01205g915k rvatio

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

E G I H E t
F E E t

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| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | Three Hours |

t on A

The following Units from **F u n n E n s** Ed., Promodini Verma Mukti Sanyal, Tulika Prasad, New Delhi: Macmillan India, 2009 (t p r s r t t are recommended for **F rst st r'**

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E G I H E t
E E E t

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| Max. Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | Three Hours |

t on A

The following Essays, Stories and Plays from the prescribed book/ **A Co t on o Ess s ort tor s**
n A t s Ed., R.K Kaushik & S.C. Bhatia, New Delhi, OUP, 2006. (**In ur- n t on A**) are
recommended for **on- st r'**

Ess s
tor s
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L t rary t r s on pts: Prose, Essay, Expository Essay, Analytical /Argumentative Essay, Lyrical Essay, Descriptive Essay, Imaginative Essay, Philosophical Essay, Short Story, Long Story, Drama, Dramatic Plot, Character, Incident, Setting, Structure, Tragedy, Comedy, Tragi-comedy*

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B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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| 1. | Abbreviation | l fRfx |
| 2. | Absence | @* iflIkf (/jgkf+jh |
| 3. | Accommodation | @kokl |
| 4. | Advice | ijle%k(l !kg(l . *k(lYki * |
| 5. | Allegiance | f*R7k |
| 6. | Alteration | ifjo *(gj&Zj |
| 7. | Amendation | l %kk:k* |
| 8. | Appendix | ifjf%RV |
| 9. | Assistant | lgk;d |
| 10. | Attendance | JiflIkf (gkf+jh |

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| 11. | Basic pay | e! o * |
| 12. | Birth Date | +Ue f flk(+Ue dh kjhCk |
| 13. | Block | Ck\$()!kd |
| 14. | Board | ,k\$(e\$! |
| 15. | Break in Service | l ok e B;o:kk* |
| 16. | By Hand | nL h |

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| 17. | Cancel | jnn dj*k |
| 18. | Clarification | LiRVhdj.k |
| 19. | Closing Balance | @ &%Rk(jkd\$,kdh |
| 20. | Committee | Lkfef |
| 21. | Competence | lFie k |
| 22. | Conference | lNe!* |
| 23. | Confirmation | ifRV |
| 24. | Consolidated fund | lefd f*f:k |
| 25. | Conveyance allowance | okg* Aklk |
| 26. | Corruption | AkRVk .kj |
| 27. | Covering letter | lgiO |

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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| 28. | Dealing Assistant | l ,f:k lgk;d |
| 29. | Dearness Allowance | eg/k5 AkLk |
| 30. | Department | foAkk/ |
| 31. | Deputy Secretary | Ji lf.o |
| 32. | Dissent | fo llef (foef ((fof:k)(@glef |
| 33. | Duplicate | @*f!fi(n ljh if |
| 34. | Duration | @of:k |
| 35. | Duty | \$.Vh(dke(dk;(dLk;(Akkj(%kwd |

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| 36. | Encashment | Ak*k*k(\$k*k |
| 37. | Entry | ifofrV(5njk+(io%k |
| 38. | Evidence | lF;(/oigh(iek.k |
| 39. | Expert | fo%kY |
| 40. | Export | f*;k |
| 41. | Extract | JTj.k |

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| 42. | Fitness Certificate | LoLlk k iek.kiO(;kV; k iek.kiO |
| 43. | Fresh Receipt (F.R.) | *5 @to h |
| 44. | Further Action | @k/ dh dljo5(@/ !h dk;oigh |

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| 45. | General Manager | i:k*k i ,:kd(egki ,:kd |
| 46. | General Meeting | l:k:kj.k lAkk(l:k:kj.k ,7d |
| 47. | Grant-in-aid | lgk; k&@*nk* |
| 48. | Guidance | ek/n%k*(f*n%k* |

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| 49. | Head Clerk | i:k*k f!fid(g\$ d!d |
| 50. | Head of Account | !Ck&%kPk |
| 51. | Head office | i:k*k dk;k!; |
| 52. | Head Quarter | eC;k!; |
| 53. | Holiday | @odk%k |

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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| 54. | Immediate officer | @kIU* @f:dkjh |
| 55. | Import | @k;k |
| 56. | Increment | o *&ofT |
| 57. | Inquiry | iN kN(+k. |
| 58. | Inspector | f*jhFd |
| 59. | Instruction | @*n%k(fgk; |
| 60. | Instructor | @*n%kd |
| 61. | Interpretation | f*o.*(B;kC;k |
| 62. | Intimation | iYki*(I.*k(5flk!k |
| 63. | Investigation | @UoRk.k(Z h%k(+k.&i\$ k! |
| 64. | Irrelevant | @I,T(foI/ |
| 65. | Issue | =lY> f*/e(i%*(eI!(-f9;> +kj) dj*(k(Ak+*(k(n*k |
| |) | |
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| 66. | Job | *kdjh(+k.(dk; |
| 67. | Joining Date | dk;/g.k& kjhCk(dk;kjMA& kjhCk |
| 68. | Joint Secretary | I;P lf.o |
| 69. | Labour Welfare | [e&dW;k.k |
| 70. | Leave Salary | NVvh dk o * |
| 71. | Leave Vacancy | @od%k&fjfp |
| 72. | Length of Service | l odk! |

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B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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| 3. | Medical Leave | f.fdg l k&NVh |
| 4. | Medical Officer | f.fdg l k&@f:kdj h |
| 5. | Messenger | l n%kolgd |
| 6. | Ministry | eOk! ; (ef0e\$! |
| 7. | Modification | l%kk:k*(_ik j |
| 8. | Most Immediate | @f & k&ckf! d |
| 9. | Nationality | jk&Vh; k |
| 10. | Necessary Action | @kol%;d dljok5 |
| 11. | Negligence | JiFk(ieln(/Z! |
| 12. | No-Objection | @*kiflk |
| 13. | Non-Official | /j&ljdj h(@%kk l dh; |
| 14. | Obedience | @kYkik! *(@kYk*o * |
| 15. | Objection | @kiflk |
| 16. | Offence | @ij k:k |
| 17. | Offer | iL ko |
| 18. | Office | dk;k! ;(nZ j(in |
| 19. | Office Copy | dk;k! ;&if (nZ j dh if |
| 20. | Office Hours | dk;k! ;≤ |
| 21. | Office Order | dk;k! ;&@kn%k |
| 22. | Officer | @f:kdj h(@Zl j |
| 23. | Officer-in-charge | iAkjh @f:kdj h |
| 24. | Officiating | Llk*kiU* |
| 25. | Option | fodll i |
| 26. | Original Copy | e! if |
| 27. | Outstanding | , dk; k |
| 28. | Overtime | le; kifj(@f fjp le; |
| 29. | Part Time | @%k&ckf! d |
| 30. | Pay | o * |

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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| 32. | Penalty | n\$(@lk&n\$(+ek*k |
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| 34. | Pension | i%k* |
| 35. | Planning | ;k+*(;k+*k , *k*k |
| 36. | Proceedings | dk;okh |
| 37. | Proposal | iL ko |
| 38. | Publicity | i.kj |
| 39. | Postpone | Llkf/ dj*(eW oh dj*k |
| 40. | Qualification | @g k(;kV; k |
| 41. | Quarterly | Oefld |
| 42. | Rectification | ifj%kk:k* |
| 43. | Reference | lnAk(f*n%k(gok!k |
| 44. | Remark | fo.kj(@A;fP |
| 45. | Remuneration | ikfj[fe(eg* k*k |
| 46. | Renewal | *oh*hdj.k |
| 47. | Revenue | jk+Lo |
| 48. | Satisfactory | I kRk+*d |
| 49. | Scrutiny | lOhFkk |
| 50. | Seal | enk(ekgj |
| 51. | Secret | /X (/X ,k |
| 52. | Security | if Akf (l jFkk |
| 53. | Seniority | ofjR7 k |
| 54. | State Government | jk]; ljdkj |
| 55. | Stores | lkek*(lke/h(Ak\$ij |
| 56. | Summary | lkjke%k(lFki |
| 57. | Superintendent | @:khFid |
| 58. | Supervisor | iooFid |
| 59. | Target | !F; |
| 60. | Technical | d*hdh |
| 61. | Testimonial | %k l kiO |
| 62. | Tour | nkjk |
| 63. | Training | if%Fk.k |
| 64. | Translation | @*oln |



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| 65. | Travelling Allowance | ;kO&Aklk |
| 66. | Under Secretary | @oj&lf.o |
| 67. | Unemployment | ,dlji(,jk+/kji |
| 68. | Unofficial Letter | @%kk l dh; iO |
| 69. | Up-to-date | @- * |
| 70. | Verification | lG;ki* |
| 71. | Violation | @f 9e.k |
| | | |
| 72. | Waiting list | i hFkk&l .h |
| 73. | Warning | Pk lo*h |
| 74. | Working days | dk;&fno l(die d fn* |
| 75. | Working Hours | dk;≤(die d ?kV |
| 76. | Working Knowledge | dk;&l k:kd&Yk* |
| 77. | Write off | ,VV&Ckk \$k! *k |
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| 78. | Zone | +k*(@.! |

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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| 5. | s w i h q d & p | 10 Ak |

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B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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English

SEMESTER - I

Essays - Composition'

or
Intermittent Assignments

30
Hrs

Unit I

Essay

30 marks

Unit II

Letter/ Application

20 marks

Unit III

Mutazad Alfaz, Mutaradif Alfaz, Wahid aur Jama, Tazkeer-o-Taanees

20 marks

Unit I

Muhaware, Correction of words/ sentences

20 marks

Books

1. Guldasta-e- mazameen -Insha pardazi Part II by Dr. Arif Mohd. Khan, published by Educational

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

U E t

SEMESTER - II

ros n o tr

or
Int rn Ass ss nt

r s
r s
Hrs

n t I

Explanation of Prose Passages from :

Urdu Zuban Hamari, Mirza Ghalib ki Seerat, Darogha ki Panchon Ghee mein, Nasooh ki Bimari.

30 marks

n t II

Explanation of Ghazal verses from :

Muhammed Valiullah Vali, Mir Taqi Mir, Mirza Asadullah Khan Ghalib, Faiz Ahmed Faiz,
Raghupati Sahay Firaq Gorakhpuri, Jigar Moradabadi.

20 marks

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

English
Assessment
Structure
Internal

Prerequisites

Time: 3 Hours

Written Paper: 90 Marks

Internal Asst. :10 Marks

Instructions to the candidates

1. Translation of two passages into English, Urdu, Punjabi, Hindi or Persian. (Out of three question 2 have to be attempted) Marks: 30
2. Explanation of Hikayat or Intekhab into English, Urdu, Punjabi, Hindi or Persian. (Choice must be given) Marks: 30
3. Summary of any one of the Hikayat from Gulistan-e-Saadi into English, Urdu, Punjabi, Hindi or Persian. Marks: 10
4. Simple and direct short biographical questions on the authors. Marks: 20

Books and sources

1. Guldasta-ye-Farsi.
Complete Prose section.

Hafiz Maulavi Mohd. Ayyub Khan
Publisher: Ram Narayan, Beni Madhauv
2, Katra Road Ilahabad.

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS



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FRENCH
PART II

EXAMINATION IN FRENCH THE I A DEX IN G. A. C. EX
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|---------------------|---|------------------|
| Max. Marks | : | 100 marks(Total) |
| Paper-A (Theory) | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 hours |

ot ' s o t on r s o

- I. Questions in applied grammer (including fill in the blanks) conforming to prescribed text-book "Lagune-1": Chapters 1-15 upto page 78 (5 questions) : 50 marks
- II. Questions on "Culture & Civilization" from the prescribed book text-book "Lagune-1": Chapters 1-15 upto page 78 (3 out of 4 questions to be attempted) : 20 marks
- III. Paraphrasing of a poem or stanzas out of the following poems from "German Verse" by Kulkarni & Chapekar : 20 marks

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

IA
English

Part I: Grammar, Translation, Grammar, Composition, Oral Presentation, Reading

For the students
International Assessment
For the students

1. Translation from simple Russian into English/Hindi/Punjabi (about 120 words) 10 marks
2. Translation from simple English / Hindi / Punjabi into Russian (about 100 words). 10 marks
3. Simple applied grammar: 3 questions out of 5 (5 marks each) (Covered in Lessons 1-15, Wagner) 15 marks
4. Questions on prescribed texts in Russian: 3 questions out of 5 (5 marks each) (Covered in Lessons 1-15, Wagner) 15 marks
5. Composition (One out of three) on the following topics: 10 marks
1. My family. 2. My day. 3. Our class. 4. Working day.
6. Comprehension: 5 questions out of 7 (3 marks each) on the unseen texts to be reproduced in the question paper: 15 marks

Part II: Oral Presentation, Oral

Books

1. V.N.Wagner : Russian, PPH, New Delhi.(Lessons 1-15)

Books for Oral Presentation

1. A. K. Maurya: ESSENTIAL RUSSIAN, University of Delhi, 2004.
2. S. Khavronina: Russian in Exercise, 1978.
3. I. Pulkina : RUSSIAN A practical Grammar with Exercise. Russky Yazik. Pub. H. Moscow.
4. Dictionaries : English -Russian dictionary.
Russian -English dictionary.

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

IA E t
E E E II

p r ' G n r r ns t on Gr r Co pos t on n o pr ns on ' r tt n

r s
or
Int rn Ass ss nt
For r u r stu nts
rs

1. Translation from simple Russian into English/Hindi/Punjabi (about 80 words)

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B. EC

A BIC E t
BE GA I E t
A I E t
E G E t
A ADA E t
A AYA A E t

The above Syllabus for B.A.(GENERAL)
FIRST YEAR (SEMESTER SYSTEM) SYLLABUS has been

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B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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|---------------------|---|----------|
| Max. Marks | : | 65 |
| Theory | : | 60 marks |
| Internal Assessment | : | 05 marks |
| Time | : | 3 Hrs. |

Unit III

12 Marks

Topic: Olympic Games, Asian Games, Commonwealth Games, and World Games

- Ancient Olympic Games.
- Modern Olympic Games.
- Asian Games; and
- Commonwealth Games.

Unit I

12 Marks

Topic: Sports Institutions, Sports Administration, International Sports Organizations, Government Sports Policies

- Raj Kumari Amrit Kaur Coaching Scheme.
- Netaji Subash National Institute of Sports, Patiala (NSNIS, Patiala).
- Sports Authority of India (SAI).
- Indian Olympic Association (IOA).
- International Olympic Committee (IOC).

Unit

12 Marks

Topic: History of the game

- History of the game.
- Basic fundamentals.
- Equipment and specifications.
- Marking/layout of court.
- Rules and regulations (number of players, duration of game, number of officials required and general rules of play).
- Major tournaments and Arjuna Awardees of the game.

References

1. Barrow, H. M. (1983)

: "Man and Movements : Principles of Physical Education", Philadelphia 1996, pp. 397-56-23.4 Td (S)-10.2

Barrow, H. M. (1913) :

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I III

12 Marks

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Warming up Cooling down Physical Fitness

- Warming up and cooling down in sports and its significance
- Meaning, definition and components of Physical Fitness.
- Influence of age, sex, body composition, diet, climate, exercise and training on Physical Fitness.

o o'

- History of the game
- Basic fundamentals
- Equipment and specifications
- Marki6.3986()TJ 13.32 1W126(a)-13.8307(l)0.8941()33.1o41(u)6.0241(i)0.89126()-3.01205(a)-1.70723(f)7.69925()

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

References

1. Brar, R.S. Walia, R., Gill, M., Kanwar, S., Kalta, S., & Thapa, A.S. (2011) : *Fundamentals of Physical Education* Kalyani Publisher, Ludhiana Punjab.
2. Chaurasia, B.D. (1981) : *Handbook of General Anatomy*, CBS Publishers and Distributors, First Edition.
3. Dandiya, P.C., Jafer, Z., Y.K. & Afifa J. (1996) : *Health Education and Community Pharmacy*, Vallabh Prakashan, Pitampura, New Delhi.
4. Marley, W.P. (1982) : *Health and Physical Fitness*, CBS College Publishing.
5. Mathews, D.K. and Fox, E.L. (1976) : *The Physiological Basis of Physical Education & Athletics*, Second Edition, W.B. Saunders Co., Philadelphia.
6. Park, J.E. & Park, K. : *Text Book of Preventive and Social Medicine*, 10th t",

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

AC ICA

Max. Marks : 35
Practical : 30 marks
Internal Assessment : 05 marks

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ot Volleyball or Kabaddi (NS) and any one game of the choice of the student (other than the two) which should be confined to the list of games approved by the Association of Indian Universities.

o

- (a) Measurements (volleyball court, net, poles, antenna and ball).
- (b) Number and position of players and officials.
- (c) Types of service (under arm service, side arm service and tennis service).
- (d) Types of passes (under hand and over head pass).
- (e) Rules of the game.

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EDUCATION AND CIVILIZATION

ASSESSMENT AND CIE

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |

GENERAL INSTRUCTIONS FOR THE ASSESSMENT

The question paper will consist of five Units : I, II, III, IV and V. Units I, II, III and IV will have two questions from the respective Units of the syllabus and will carry 18 marks each. Unit V will consist of 10 short answer type questions which will cover the entire syllabus uniformly and will carry 18 marks in all. Each short question will carry 3 marks.

GENERAL INSTRUCTIONS FOR THE CANDIDATE

The students will be required to attempt one question each from Units I, II, III and IV. The students are required to attempt 6 short questions out of 10 in Unit V which will be compulsory. The question paper should preferably carry internal division of marks for all the sub-questions of one main question. Preferably set the words limit (300-350 words for Units I, II, III, IV and; 75 words for each short answer type question in Unit V) for answer.

Notes

To enable the students to understand :

1. The Meaning, Nature and Scope of Education along with its types.
2. Functions of Education in light of its aims.
3. Role of Education viz-a-viz present day needs.

Cours Contents

- Unit I** : (a) Meaning and Nature of Education : Education as a Socio-Political Process and Developmental Process.
(b) Informal, Formal and Non-Formal Education.
- Unit II** : (a) Aims of Education – Individual, Social, Vocational and Democratic.
(b) Functions of Education – Individual Development, Transmission of Cultural Heritage and Education for Social Change.
- Unit III** : (a) Education for Democratic Citizenship.
(b) National Integration and International Understanding.
- Unit IV** : (a) Value Education –Meaning of Values, their Development
(b) Transactional Strategies.

Books

1. Bhatia, K.K. and Narang, C.L. : *Teacher and Education in Emerging Indian Society*, Tandon Publishers, Ludhiana, 2002.
2. Bhatia, K.K. and Sharma, S. : *Bhartiya Shiksha Ki Adhunik Samasyaein*, Parkash et al Bros., Ludhiana, 1986.
3. Bhatnagar, Suresh : *Kothari Commission Recommendations and Evaluation with a Text on National Policy on Education*, Loyal Book Depot, Meerut, 1982.
4. Govt. of India : *National Policy on Education*, Ministry of Human Resource Development, New Delhi, 1986.
5. Govt. of India, Ministry of Education : *Report of Education Commission (1964-66)—Education and National Development*.
6. Govt. of India, Ministry of Education :

EDUCATIONAL PSYCHOLOGY

EDUCATIONAL PSYCHOLOGY

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |

GENERAL INSTRUCTIONS FOR THE APPLICANTS

The question paper will consist of five Units : I, II, III, IV and V. Units I, II, III and IV will have two questions from the respective Units of the syllabus and will carry 18 marks each. Unit V will consist of ten short answer type questions which will cover the entire syllabus uniformly and will carry 18 marks in all. Each short question will carry 3 marks.

INTERNAL ASSESSMENT FOR THE COURSE

The students will be required to attempt one question each from Units I, II, III and IV. The students are required to attempt six short questions out of ten in Unit V which will be compulsory. The question paper should preferably carry internal division of marks for all the sub-questions of one main question. Preferably set the words limit (300-350 words for Units I, II, III, IV; and 75 words for each short answer type question in Unit V) for answer.

Objectives

To make the students understand :

1. The meaning, scope and uses of psychology in education.
2. Human growth and development upto the stage of childhood.
3. Meaning, purpose of learning and factors influencing learning.
4. The concept of intelligence - its meaning and measurements.
5. Causes and significance of individual differences.

Course Contents

- Unit I** : (a) *Educational Psychology* : Meaning, Nature and Scope.
(b) Individual Differences – Causes, Significance and Educational Implications.
- Unit II** : (a) Nature of Human Growth and Development – Physical, Mental, Emotional and Social.
(b) *Stages of Human Development* : Infancy and Childhood, their Needs, Significance and Problems.
- Unit III** : a) *Learning* : Meaning and Definition.
(b) Theories of Learning - Trial and Error by Thorndike and Classical Conditioning by Pavlov.
- Unit IV** : (a) *Intelligence* : Meaning, Types
(b) Measurement of Intelligence.

B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

Books

1. Aggarwal, J.C. : *Essentials of Educational Psychology*, Vikas Publishing House, Private Ltd., New Delhi, 1995.
2. Bhatia, H.R. : *A Textbook of Educational Psychology*, Asia Publishing House, New Delhi, 1977.
3. Bhatnagar, S. : *Shiksha Manovigyan*, International Publishing House, Meerut, 1977.
4. Dhingra, R. : *Educational Psychology and Guidance*, Punjab Katab Ghar, Jalandhar.
5. Kagan, J. and Lang, C. : *Psychology and Education*, Harcourt Brace Jovanovich, Inc., New York, 1978.
6. Kundu, D. : *Modern Educational Psychology*, Sterling Publishers (P.) Ltd., New Delhi, 1974.
7. Kuppuswamy, B. : *Advanced Educational Psychology*, Sterling Publishers (P.) Ltd., New Delhi, 1994.
8. Mangal, S.K. : *Advanced Educational Psychology*, Prentice Hall of India Ltd., New Delhi, 2002.
9. Mathur, S.S. : *Educational Psychology*, Vinod Pustak Mandir, Agra, 1998.
10. Sandhu, I.K. and Kaur, A. : *Shikhya Manovigyan*, Punjabi University, Patiala, 1976.
11. Walia, J. S. : *Foundations of Educational Psychology*, Paul Publishers, Jalandhar, 2001.

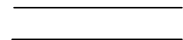
B.A./B.Sc.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) S

5. Dept. of Education, Ministry of Human Resource Development, Govt. of India : *National Literacy Mission, 1988.*
6. Kundu, C.L :



GENERAL INSTRUCTIONS

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto 10 students in one section of Practical Class.
3. There should not be more than eight students in a batch for practical examination.
4. Harmonium will not be allowed as accompaniment in vocal music, but harmonium can be used while singing Alankars.



Books

1. Sangeet Bodh : Paranjpe, Shartchandra Shridhar.
2. Sangeet Shastra Vigyan : Panna Lal Madan.
3. Sangeet Kala ka Itihas : Panna Lal Madan
- 4.

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GENERAL INSTRUCTIONS

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto 10 students in one section of Practical Class.
3. There should not be more than eight students in a batch for practical examination.
4. Harmonium will not be allowed as accompaniment in vocal music, but harmonium can be used while singing Alankars.

Students are to present or submit their work in the form of a project or report.

6. The candidate can take vocal music along with Instr

Books Recommended

1. *Sangeet Bodh*



IC Instrument

F. E. E. P.

GE E A I C I

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the

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Unit I

1. Elementary knowledge of Raga
2. Sangeet (Definition & importance)
3. Different Jaties of Ragas of the Present Raga System of North Indian Music.

Unit II

1. Elementary knowledge of the following terms: (not more than 100 words) :
Swara, Saptak, Alankar. Aron, Avroh, Pakad, Thaata
2. Elementary knowledge of Bhatkhande Notation System.

Unit III

1. Brief description of your own instrument.
2. Definition and types of Gat (Razakhani and Maseetkhani).

Unit I

Notation and Description of the prescribed Ragas and Talas :

1. Rag Bhopali (one Razakhani gat)
2. To write Alankars.
3. To write the notation of Tala (Dadra & Teental) with dugun layakaries

E:- Both the questions from this part must contain one notation of Raga alongwith the notation of Talas.

Unit

Unit questions on notation system of Bhatkhande
Unit questions on notation system of Bhatkhande

AC ICA

1. Demonstration of different Alankars of Shudh & Vikrit Swaras on your instrument.
2. One Razakhani gat of raga Bhopali
3. Knowledge of the non-detailed raga : Deshkar (only Aroh-Avroh and Pakad).
4. Ability to demonstrate the following talas by hand in Ekgun and Dugun layakaries: Dadra, Teental .
5. Ability to play Shudh-Swaras on Harmonium.
6. Ability to play Dadra tala on tabla.

Books

1. *Rag Parichaya Part II and III* : H.C. Srivastava.
2. *Sangeet Kaumudi Part-II (Punjabi)* : V.S. Nigam
3. *Sitar Marg, Part-II* : S. Bandopadhya.
4. *Sangeet Sar, Part-I* : Mrs. Veena Mankaran.
5. *Sangeetanjali, Part I & IV* : Pt. Onkar Nath Thakur.
6. *Sangeet Manjusha* : Dr. Indrani Chakravarti.
7. *Sangeet Shastra Vigyan* : Sh. Panna Lal Madan
8. *Sangeet Kala ka Itihas* : Sh. Panna Lal Madan

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IC Instrument

GENERAL

GENERAL INSTRUCTIONS

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto 10 students in one section in Practical Class.

For source not for the students not for practical examination

4. Harmonium can be used while singing Alankars.

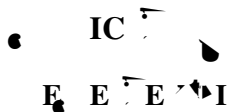
In all, *nine* questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting by one question from each Unit.

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

Books

1. Rag Parichaya Part II and III : H.C. Srivastava
- 2.

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS



GENERAL INSTRUCTIONS :

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. In all, nine questions will be set from the whole syllabus of Semester-I. The question paper will be divided into five units. First four units contain 02 questions each, out of which the candidates are to attempt one question from each unit, unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.
3. Harmonium/ Sarangi will be allowed to play Nagma/Lehra. No electronic Lehra machine will be allowed for practical examination.
4. Practical Paper shall be set from the syllabus for Paper-B (Practical).

paper A (Theory) (3 Hours duration) : 45 Marks

paper B (Practical) (20 minute's duration). : 45 Marks

- | | |
|----------------------|----------|
| (i) Viva | 30 Marks |
| (ii) Harmonium | 05 Marks |
| (iii) Tabla (Tuning) | 05 Marks |
| (iv) Padhant on Hand | 05 Marks |

Internal Assessment (Theory+Practical) (5+5) 10 Marks

Total Marks

paper A (Theory)

Unit I

1. Brief history of Tabla
- 2.

Unit III

1. Life sketches and contributions of the following:-
 - a. Ustad Siddhar Khan
 - b. Miyan Kadar Baksh
 - c. Pt. Chatur Lal

Unit I

1. Ability to write in notation the composition prescribed Taal: (Teentaal, Chautal, Kehrva)
Quaida, Simple Tukra, Tihai
2. To write description of Taal of the syllabus.
3. To write the notation of Taal in Single and Double.

Unit V

1. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

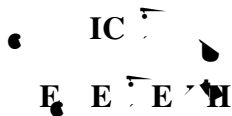
Practical ICA

1. Taals Prescribed Teen Taal, Chautaal, Kehrwa
2. Laggi in Kehrwa Taal and its variety.
3. Teen Taal (Peshkara, Two Paltas, Two Kaydas, Two Mukhra)
4. Chautaal (Theka in Thah and Dugun)
5. Practice of playing the above Taals with Vocal and Instrumental performances.
6. Ability to play Nagma/Lehra on Harmonium in Teen Taal.

Books

- | | |
|--------------------------------|-------------------------------|
| 1. Taal Prabhakar Prashnottari | : G.C. Srivastava. |
| 2. Tabla Tarang | : B.S. Nigam |
| 3. Taal Prakash | : Sangeet Karyalaya, Hathras. |
| 4. Avanaddha Vadhya | : M.P. Sharma |
| 5. Hamare Sangeet Ratan | : Sangeet Karyalaya, Hathras. |
| 6. Tabla ki Utpatti Evam Vikas | : Yogmaya Sharma |
| 7. Tabla Vadan Part-1 | : Jagmohan Sharma |
| 8. Tala Parichya Part-1 | : G.C. Srivastava. |

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS



GENERAL INSTRUCTIONS :

1. In case of the private candidates, there will be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. In all, nine questions will be set from the whole syllabus of Semester-II. The question paper will be divided into five units. First four units contain 02 questions each, out of which the candidates are to attempt one question from each unit, unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.
3. Harmonium/Sarangi will be allowed to play Nagma/Lehra. No electronic Lehra machine will be allowed

Unit III

1. Life sketches and contributions of the following:-
 - a. Ustad Allah Rakha Khan.
 - b. Ustad Ahmad Jaan Thirkava.
 - c. Pt. Samta Parshad (Gudai Maharaj)

Unit I

1. Teental, Ektaal, Dadra.
2. To write description of Taals of your syllabus.
3. To write the notation of Taal in Single Double and Chaugun

Unit

1. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of carry 01 marks each.

Practical ICA

1. Taals prescribed Dadra, Ektaal, Teen Taal
2. Laggi in Dadra and Kehrwa Taal.
3. Ektaal (One Qaida, Two Tukra, Two Tihai, One Paran)
4. Teentaal (One Rela, One Chakradar Paran, One Tukra, One Mohra)
5. Practice of Dholak playing in Kehrwa Taal.
6. Ability to play Nagma/Lehra on Harmonium in Ektaal.
7. Tuning of Tabla.

Books

- | | |
|--------------------------------|-------------------------------|
| 1. Tala Prabhakar Prashnottari | : G.C. Srivastava. |
| 2. Tabla Tarang | : B.S. Nigam |
| 3. Taal Prakash | : Sangeet Karyalaya, Hathras. |
| 4. Avanaddha Vadya | : M.P. Sharma |
| 5. Harmare Sangeet Ratan | : Sangeet Karyalaya, Hathras. |
| 6. Tabla ki Utpatti Evam Vikas | : Yogmaya Sharma |
| 7. Tabla Vadan Part-1 | : Jagmohan Sharma |
| 8. Tala Parichya Part-1 | : G.C. Srivastava. |



IC Internal Assessment E E E E

GENERAL INSTRUCTIONS :

- 1 In case of the private candidates, there would be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
- 2 There would be upto ten students in one section in practical class.
- 3 There would not be more than eight students in a batch for practical examination.
- 4 No electronic Instruments will be allowed for lehra in practical examination
- 5 The candidate can take Dance along with Vocal music.
- 6 The candidate can also take instrumental music with Dance.
- 7 While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.
- 8 In all, *nine* questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

IC In n C ss D n E E E

GE E A I C I :

1. In case of the private candidates, there would be no internal assessment and the marks obtained in the external assessment of the practical examination shall be proportionately increased.
2. There would be upto ten students in one section in practical class.
3. There would not be more than eight students in a batch for practical examination.
4. No electronic Instruments will be allowed for lehra in practical examination
5. The candidate can take Dance along with Vocal music.
6. The candidate can also take instrumental music with Dance.
7. While sending the syllabus to paper-setter in theory, the syllabus prescribed for the practical paper should also be sent.
8. In all, nine questions will be set. The question paper will be divided into five Units. Four Units will contain two questions each and the candidates are required to attempt four questions selecting at least one question from each Unit. The ninth question of unit V is compulsory & it consists of 13 short answer questions (covering entire syllabus i.e. theory and practical) out of which students have to attempt 09 questions of 01 marks each.

| | |
|--|----------|
| HE (Time duration 3 hours.) | 45 Marks |
| AC ICA (20 minutes duration) | 45 Marks |
| Int rn ss ss nt (Theory and Practical) (5 + 5) | 4 |

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

FI E A

E E E I

or H stor o Art

Unit I - Introduction to Art - Concepts

- Colour: Colour Theory, Colour wheel, Colour terminology and meaning of colour, Line - different types of lines and its meaning, Perspective: Linear and Aerial, Foreshortening.

Objectives

The students are expected to familiarize themselves with the art forms as seen from the books, slides and related films. Visits to Museums, exhibitions and art galleries are a part of study.

References

1. Kramrisch, Stella : Survey of Painting in the Deccan, Oriental Books Corporation, New Delhi, 1983.
2. Majumdar, R.C. (editor) : The History and Culture of Indian People, Vols. I, II and III (Sculpture and Painting Sections only) Bhartiya Vidya Bhawan, Bombay, 1988, 1990, 1996.
3. Gupte and Mahajan : Ajanta, Ellora and Aurangabad Caves, D.B. Taraporevala Sons & Co. Pvt. Ltd., Bombay, 1962.
4. Rowland, Benjamin : The Art and Architecture of India, Penguin Books, Great Britain, 1959.
5. Saraswati, S.K. : A Survey of Indian Sculpture, Munshiram Manoharlal Publishers Pvt. Ltd., New Delhi, 1975.
6. Ray, N.R. : An Approach to Indian Art, Publication Bureau, Panjab University, Chandigarh, 1974.
7. Barrett, D. and Gray, B : Painting of India, The World Publishing Co., Ohio, 1963.
8. Archer, W.G. :

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

FI E A

FE E E II

or History of Art

| | | |
|---------------------|---|----------|
| Max. Marks | : | 60 |
| Written Paper | : | 54 Marks |
| Internal Assessment | : | 06 Marks |
| Total | : | 60 Marks |



EC I I t u r s

1. Drawing and Painting of a number of objects to study proportion, volume and rhythmic : relationship of masses, study and rendering of texture of different objects.
2. Number of objects : Three objects with display at the back.
3. Medium : Oil, acrylic or water colours.
4. Size : ½ Imperial sheet or Canvas Pad

EC I II Dr n ro r s

1. Portrait : From Live Model or Cast in Monochrome
2. Medium: Charcoal or Pastels (Monochrome)
3. Size: ½ Imperial size sheet.
4. Emphasis should be on structure, proportion, foreshortening, Textural Values, Posture & Individuality of the model.

EC I III n s p n t n o n t s p o t r s

Landscape painting: Study relationship of objects, their arrangements in the foreground, middle and distance, texture, relative size of masses, tones and colours, use of linear and aerial perspective.

1. Medium : Oil, acrylic or water colours.
2. Size : ½ Imperial sheet or Canvas pad

E I A A B s on or r t qu to s t ons

Sessional marks will be given on the basis of the work done during the session in all the three sections. At least, three works will be submitted in each section. Sessional marks shall be given by external and internal examiners jointly. In case of difference of opinion, marking may be done separately by each examiner giving marks out of 50% of the aggregate of the sessional marks.

- E**
1. Choice of option to be offered would depend on the facility available in each Institution concerned.
 2. Minimum of 9 hours' teaching per week be assigned to the subjects and out of nine hours, six hours be earmarked for practical classes and three hours for theory classes (per week)



Unit I

Unit III

- (a) Indus Valley Civilization.
- (b) Mauryan Period.
- (c) Bharhut.
- (d) Sanchi.

Unit I

- (a) Amaravati.
- (b) Nagarjunikonda.
- (c) Mathura under the Kushanas.
- (d) Gandharan Art.

Unit I

The students are expected to familiarize themselves with the art forms as seen from the books, slides and related films.

References

1. Kramrisch, Stella : *Survey of Painting in the Deccan*, Oriental Books Reprint Corporation, New Delhi, 1983.
2. Majumdar, R.C. (editor) : *The History and Culture of Indian People*, Vols. I, II and III (Sculpture and Painting Sections only) Bhartiya Vidya Bhawan Bombay, 1996, 1990, 1988.
3. Gupta and Mahajan : *Ajanta, Ellora and Aurangabad Caves*, D.B. Taraporevala Sons & Co. Pvt. Ltd., Bombay, 1962.
4. Rowland, Benjamin : *The Art and Architecture of India* 3.A A A0g93.976(n)-6.0 e
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B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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Max. Marks : 100
Time : 3 Hours

of

1. Each paper carries 100 marks.
2. The paper-setter is required to set 9 questions in all. The candidate is to attempt 5 questions as per the instructions given in the question paper.
3. The first question shall be of short answer type containing 14 questions spread over the whole syllabus. Each question is to be answered in about 25 to 30 words. It shall carry 28 marks and shall be a **Compulsory** question.
4. 8 questions are to be set from the entire syllabus consisting of 4 Units. Two questions will be set from each Unit and the candidates shall be given internal choice i.e. a candidate shall attempt one question from each Unit. So, the candidate shall attempting 4 questions in all out of 8 questions. Each question would be of 18 marks

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Unit I

Elements of Art

- (a) Space, Line, Colour, Form, Texture, Light and Shade, Design, Balance, Harmony, Composition, Perspective, Foreshortening.
- (b) Mural, Fresco and Tempera techniques.

Objectives

The students are expected to familiarize themselves with the art form as seen from the books, slides and related films.

References

1. Read, Herbert : *Meaning of Art*, Faber & Faber, London, 1972.
2. Janson, H.W. : *History of Art*, Thames & Hudson, London, 2001.
3. Gardner, Helen : *Art Through the Ages*, Harcourt Brace & Co., U.S.A., 1991.
4. Gombrich, E.H. : *The Story of Art*, Phaidon Press Limited, New York, 1995.

**A C I E I D I A H I C A C H A E G Y
E E E I**

Max. Marks : 100
Theory : 90 Marks
Internal Assessment : 10 Marks
Time : 3 Hours

**p r I H I P A D C F I D I A F H E I D A E Y C I I Z A I
BC**
t s

The paper is a survey of the proto-historic and historic background to Indian history from the Harappan Civilization to 321 BC.

o o t Cours or

Students are familiarized with sources and with methods of reconstructing ancient history. An attempt is made to view the events in their situational context, locating the interconnection of social, economic and political developments, as far as their sources permit.

I C I F H E A E E E A D C A D I D A E

1. The theory paper will be of 90 marks and 10 marks will be for internal assessment.
2. For Private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.
3. The paper-setter is required to set questions in all. All questions shall carry equal marks. The paper shall be of 3 hours duration.
4. The first question shall be of short answer type containing 15 short questions spread over the entire syllabus. The candidate is required to answer any 9 short answer type questions. Each short answer type question shall be of 2 marks to be answered in 25 to 30 words. A question on map. The map

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I I

Sources of Ancient Indian history: Harappan Civilization: origin; extent; urban features and decline.

I II

Vedic Civilization (Rig Vedic and Later Vedic Perio

**A C I E I D I A H I C A C H A E G Y
E E E H**

Max. Marks : 100
Theory : 90 Marks
Internal Assessment : 10 Marks
Time : 3 Hours

**p r H I P A D C P F I D I A F H E A P A D
t s**

This course deals with the political and cultural history of India from Mauryas to the Post Kushana period.

o o t Cours or

The students are taught with the help of slides, photographs, topographical maps and political maps. In addition to it, lectures, workshops and seminars are arranged to facilitate the students to understand the subject in a better way.

I C I F H E A E E E A D C A D I D A E

1. The theory question paper will be of 90 marks and 10 marks will be for internal assessment.
2. For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

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3. The paper-setter is required to set questions in all. All questions shall carry equal marks. The paper



I II

Sungas, Kanvas and Satvahanas: survey of the sources; political overview; society and economy; culture and religion.

I III

The Indo Greeks, Shakas and Parthians: survey of the sources; polity; society and economy.

I I

Kushana and Post-Kushana Period: survey of the sources; social; political; economic; cultural and religious conditions.

Ess nt s

1. Bongard Levin, G. : *Mauryan India*, Sterling, Delhi, 1985.
 2. Chakravarti, Ranabir : *Exploring Early India: Upto C.AD 1300* Ratna Sagar, New Delhi 2016.
 3. Jha, D.N. : *Ancient India in Historical Outline*, Manohar, New Delhi, 1977.
 4. Majumdar, R.C. et al, eds. : *The History and Culture of the Indian People*, Bhartiya Vidya Bhawan, Mumbai, 1951.
 5. Mukherjee, B.N. : *The Rise and Fall of the Kushana Empire*, Firma KLM, Calcutta, 1988.
 6. Narain, A.K. : *The Indo-Greeks*, Claerendon Press, Oxford, 1957.
 7. Nilakantha Sastri, K.A. (ed.) : *The Age of the Nandas and Mauryas*, Motilal Banarsidass, New Delhi, 1988.
 8. Raychaudhuri, H.C. : *The Political History of Ancient India*, Oxford, New Delhi, 2011
 9. Shastri, A.M. : *Early History of the Deccan*, Sandeep Prakashan, New Delhi, 1987.
 10. Shrimali, K.N. : *Prachin Bharat Ka Itihas*, Karyanvaya Nideshalay, Delhi University, Delhi 2009.
 11. Singh Upinder : *A History of Ancient and Early Medieval India (From the Stone age to the 12th Century)*, Pearson Education, Delhi, 2009.
 12. Thapar, R. : *Ashoka and the Decline of the Mauryas*, Oxford, New Delhi, 2012.
 13. Thapar Romila : *The Penguin History of Early India from the origin to AD 1300*, Penguin Books, New Delhi, 2002.
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DEFENCE STRATEGIC STUDIES

SEMESTER I

INTERNAL ASSESSMENT

Note:

1. There will be one-theory paper of 70 marks. The internal assessment will be of 10 marks. The theory paper will have one compulsory short answer type question containing 15 questions of 2 marks each covering the entire syllabus. The candidates will be required to attempt any 10 short answer type questions. In addition to it there will be four sections of the question paper containing 2 questions each. The candidate will be required to attempt one question from each of the four sections. Theory paper will be of three hours duration.
2. Practical examination will be compulsory for regular and correspondence students. It will be of 20 marks. There will be 3 hours of teaching per week for practical and the number of students in one group shall not ordinarily exceed fifteen.

ASSESSMENT

M. Marks : 70

EC I I

7. Psychological aspects of war, Leadership, Motivation, Morale, Discipline, Panic and Fear.
8. Information Warfare.

Books

1. Bernard, Brodie, Strategy in the Missile Age Rand Corp., Santa Monica, 2007.
2. Boring, E., Psychology in the Armed Services, National Academics, Washington 1945.
3. Clausewitz Von Carl, On War, Wilder Publications, United States, 2008.
4. Fuller, J.F.C, Armament and History, Da Press, New York,1998 .
5. Fuller, J.F.C., The Conduct of War, N.J. Rutgers University Press, New Brunswick, 1961.
6. Gerald, J., Defence Psychology, Pergamon Press, Michigan, 2008.
7. Harkabi Y., Nuclear War and Nuclear Peace, Transaction Publishers,Piscataway, New Jersey, 2008.
8. Hart, Liddle, Strategy of Indirect Approach, BiblioBazaar, 2011 Washington, 1945.
9. JFR Jacob, Surrender at Dacca, Birth of a Nation, Manohar Publishers & Distributors, New Delhi, 1997.
10. Malkasia6 0 Td ()Tj0241(54307(h)-6.0241(o)-18.0723(l)-11.6.0241(9)-6.01205(D)-89126(s)3.45915(h)6.0241(e)-1a0602(&)6.9

DEFENCE STRATEGIC STUDIES

SEMESTER II

INTERNAL ASSESSMENT

Note:

1. There will be one-theory paper of 70 marks. The internal assessment will be of 10 marks. The theory paper will have one compulsory short answer type question containing 15 questions of 2 marks each covering the entire syllabus. The candidates will be required to attempt any 10 short answer type questions. In addition to it there will be four sections of the question paper containing 2 questions each. The candidate will be required to attempt one question from each of the four sections. Theory paper will be of three hours duration.
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B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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1. The syllabus has been divided into four Units.
There shall be 9 questions in all. The first questi

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

I I

- I. Major Sources of History : Literary and travel accounts; Archaeological findings; inscriptions; coins.
- II. Harappan Civilization : Extent, town planning; social economic and religious life.
- III. Life in Vedic Age: Political and Economic; social and religious.

I II

IV.

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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II

- IV. Vijaynagar Kingdom : Establishment; Administration and Economy.
- V. Formation of the Mughal Empire : Political condition of India on the eve of Babur's invasions; conquests and causes of his success.
- VI. The Afghans : Establishment of Afghan power under Sher Shah Suri; administrative reforms.

III

- VII. The Mughal Empire : Central and Provincial administration; land revenue system.
- VIII. The Mughal Empire : Mansabdari system; Jagirdari System.
- IX. Debates on the Decline of the Mughal Empire.

I

- X. The Rise of the Marathas : Conquests of Shivaji; administration.
- XI. Evolution and main features : Bhakti movement; Sufism.
- XII. MAP :

- (i) Important Historical places : Lahore, Delhi, Agra, Mathura, Fatehpur Sikri, Chittor, Jaipur, Udaipur, Panipat, Lucknow, Ahmednagar, Poona, Surat, Golkonda, Bijapur, Daulatabad,
- (ii) Extent of Empire under Allauddin Khalji.
- (iii) Mughal Empire in 1707.

st

1. Alam, Muzaffar and Sanjay Subrahmanyam : *The Mughal State 1526-1750*, New Delhi : Oxford University Press, 1998.
2. Chandra, Satish : *Medieval India from Sultanate to the Mughals (1206-1526)*, New Delhi : Har-Anand Publications Pvt. Ltd., 1997.
3. Chandra, Satish : *Medieval India from Sultanate to the Mughals, Part-II Mughal Empire (1526-1748)*. New Delhi: Har-Anand Publications Pvt. Ltd., 2007
4. Chandra, Satish : *Essays on Medieval Indian History*, New Delhi : Oxford University Press, 1987.
5. Chandra, Satish : *History of Medieval India*, Delhi : Orient Black Swan, 2007 (Hindi Medium).
6. Habib, Irfan : *Medieval India : The Study of Civilization*, New Delhi : National Book Trust, India, 2008.
7. Ray Chaudhri Tapan and Irfan Habib : *The Cambridge Economic History of India*, Vol. I., c. 1200-c.1750, New Delhi : Orient Longman, 2007.
8. Rizvi, S.A.A. : *The Wonder That Was India*, Vol. II, 1200-1700, New Delhi : Rupa & Co., 1996.
9. Singh Navtej : *Madhkalin Bharat*, National Book Trust (Punjabi).

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

POLITICAL SCIENCE

POLITICAL SCIENCE

POLITICAL SCIENCE

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 hours |

The objective of this paper is to introduce first year undergraduate students to some of the basic aspects, concepts and themes in the discipline of Political Science.

INSTRUCTIONS FOR THE APPLICANTS

- There shall be 15 questions in all.
- In Question No. One, 15 short answer type questions be asked spreading over whole syllabus to be



n t III

1. *State* : Liberal, Marxian and Gandhian View.
2. *Welfare State* : Liberal and Socialist Perspective.

n t IV

1. *Sovereignty* : Definition, Attributes/ Characteristics and Types.
2. *Theories of Sovereignty* : Monistic and Pluralistic.
3. *Political System* : a) Meaning & Characteristics.
Political System : b) *Functions according to David Easton & Almond & Pow*

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

11

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Max. Marks : 100
Theory : 90 marks
Internal Assessment : 10 marks
Time : 3 hours

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B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

11

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Max. Marks : 100
Theory : 90 marks
Internal Assessment : 10 marks
Time : 3 hours

Course Content

Microeconomics is concerned with the analysis of economic phenomena from the perspective of the individual. The course covers the basic concepts and tools needed to undertake the analysis of such problems that arise due to the law of scarcity. The course also aims at introduction of the functioning of competitive and noncompetitive product markets and performance of the markets for resources. The students are expected to develop rudimentary understanding

11

EC IC
Principles of Macroeconomics

Principles of Macroeconomics IC

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 hours |

Course Objectives

This paper aims to familiarize the student with the generally accepted principles of macroeconomics. It deals with aggregates i.e. consumers as a whole, producers as a whole, exporters and importers as a whole, the effects of government spending and taxation, and the monetary policy of the central bank. The course includes the basic theories of determination of income, consumption, investment, employment, money and interest, inflation, Monetary and Fiscal policies, and business cycles.

Introduction to the A.E.T.E. A.D.C.A. D.D.A.E.

The syllabus has been divided into four units.

- (i) There shall be 20 questions in all. All questions carry equal marks. The first question shall be short answer type containing 10 short questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 10 short answer type question i.e. 2 marks of each. It shall carry 18 marks and shall be compulsory question. Rest of the paper shall contain 4 units. Each unit shall have 10 questions and the candidate shall be given internal choice i.e. the candidates shall attempt one question from each unit – 4 in all.
- (ii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

Principles of Macroeconomics – Unit I

Introduction: Nature, Meaning and Scope of Macro-Economics.

Consumption Function:

Average and Marginal Propensity to Consume, Keynes' Psychological Law of Consumption.

Investment Function:

Types of Investment, Investment Demand Schedule and Factors Affecting Investment Decisions, Marginal Efficiency of Capital, Static and Dynamic Multiplier.

Unit II

Determination of Income and Employment:

Classical and Keynesian Theories of Income, Output and Employment, Say's Law of Markets. Principle of Effective Demand.

Unit III

Money and Banking:

Money : Definition, Functions and Role

Quantity Theory of Money: Fisher's Equation and Cambridge Equation, Keynesian Liquidity Preference Theory.

Banking: Major Functions of Commercial Banks and Process of Credit Creation.

n t I*Inflation and Macro-Economic Policies:*

Cost-push and Demand-pull Theories of Inflation, Measures to Control Inflation. Monetary and Fiscal Policies for Stabilization.

*Trade Cycle: Meaning and Phases.***References**

1. Dernburg, T.F. & McDougal, D.M.(1983) : Macro Economics, McGraw Hill, New York.
2. Ghuman, Ranjit Singh (latest edition) : Antar-Rashtriya Arth Vigyan, Punjabi University, Patiala.
3. Shapiro, E. (1996) : Macroeconomic Analysis, Galgotia Pub.(P) Ltd., New Delhi.
4. Sharma, O.P. (Punjabi Medium) (latest edition) : Macro Economics, Punjabi University, Patiala.
5. Vaish, M.C. (2010) : Macro Economic Theory, Oxford University, Press, New Delhi.

References

1. Ackley, Gardner (1985) : Macro Economic Theory, McMillan, New York.
2. Ahuja, H.L. (2004) : Macroeconomics Theory and Policy, S.Chand Pub. New Delhi.
3. Baird, C.W. (1982) : Elements of Modern Economics, West Publishing Company.
4. Dwivedi, D.N. (2012) : Macroeconomics-Theory and Policy, Tata McGraw Hill Publication House, New Delhi.



CI GY E E E I

F DA E A F CI GY

| | | |
|---------------------|---|----------|
| Max. Marks | : | 100 |
| Theory | : | 90 marks |
| Internal Assessment | : | 10 marks |
| Time | : | 3 Hours |

I C I F HE A E E E A D HE CA DIDA E

- (i) For written paper, the students will be required to attempt questions in all. Question No. I will be **o. pu sor** comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt **n n** short answer type questions out of 12, i.e. $9 \times 2 = 18$ marks.
In addition to it, Question Nos. II to IX will consist of long answer (essay type) questions, two questions from each Unit with internal choice carrying 18 marks each i.e. $4 \times 18 = 72$ marks. .
- (ii) On an average, 15 hours are to be devoted for each Unit.
- (iii) For private candidates, who have not been assessed earlier for internal assessment, the marks secured by them in theory paper will proportionately be increased to maximum marks of the paper in lieu of internal assessment.

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This paper aims at introducing Fundamentals of Sociology to the beginners of the subject, the basic understanding about Sociology as a discipline. Study of various terms, concepts and processes will help students in formulating a Sociological Viewpoint and an easy comprehension of the discipline at later stages.

Cours Cont nt

n t I

Introduction to Sociology: Origin and Development; Nature and Significance.

Relationship of Sociology with other Social Sciences --11.1569(;9126(e)-22403)-6.0241(yd [U]-01(g) [S]1.782(i)0.893:c pctu tr.7

n t I

Socialization:

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

PHYSICS

PHYSICS

PHYSICS

PHYSICS

Max. Marks : 100
Theory : 90 marks
Internal Assessment : 10 marks
Time : 3 Hours
Lectures : 75

PHYSICS

The aim of this paper is to familiarize the students with the subject, its branches, problems and methods. The contents of this paper provide the students with

Unit II

4. Introduction to main branches of Philosophy : Metaphysics, Epistemology, Ethics, Social Philosophy and Aesthetics (The interrelation between the branches will be focused).
5. Relation of Philosophy with Science and Religion.
6. Nature of Art and Aesthetic Experience

Unit III

7. Ethics and Social Philosophy : Good life and Good Society.
8. Morality in Public and Private life.
9. Individual and Society.

Unit I

11. Justice : Virtue, Fairness, Equality.
12. Tolerance : Respect for Cultural Pluralism and Social diversities.
13. Caste System in India : Jyoti Ba Phule, Gandhi, Ambedkar.

Essential Readings

1. G.L. Chandramani : Hitopadesa, Jaico Publishing House, 1995.
2. Mandukya Upanisad, Yamuna Prasad Tripathi : Varanasi Bhartiya Vidya Prakashan, 1966.
3. Narvane, V.S. : Modern Indian Thought, Orient Longman Publishers, 1978.
4. Titus, H.H. : Living Issues in Philosophy, Oxford University, 1993.
5. Amartya Sen : The Idea of Justice, The Belknap Press of Harvard University Press Cambridge, Massachusetts, 2009.
6. Calvin Lewis Pinchin : Issues in Philosophy, Palgrave Macmillan, London, 2nd Ed. December, 2004.
7. Morris Weitz (ed.) : Problems of Aesthetics : An Introductory Book of Readings, Macmillan, New York, 1970.

Unit III

5. Categorical Syllogism : The Structure and Rules of validity of Pure Categorical Syllogism, Figures and moods, Fallacies of Syllogism.
6. Introduction to Truth-Tables, Negation, Conjunction, Disjunction, Implications and Equivalences.

Unit I

7. Nature of Induction : Distinction between Deduction and Induction.
8. Kinds of Induction.
9. Causation : Nature of Cause, Plurality of Causes.

Essential References

1. Copi, I. M. : Introduction to Logic (N.Y., Macmillan, 1972, Hindi Translation available); London : Routledge and Kegan Paul.
2. Copi, Irvin M. : Introduction to Symbolic Logic (Prentice Hall of India), New Delhi, 1998.
3. Cohen and Nagel : Introduction to Logic and Scientific Method (Allied Publishers), New Delhi, 2000.

Additional References

1. Alice Ambrose, Morris Lazerowitz

PSYCHOLOGY
SEMESTER I

OBJECTIVES

- (I) The course introduces to the students the general concepts and historical viewpoints in general psychology. The students would also get an understanding of the principles and theories in different areas like personality, motivation, intelligence, etc. The course also appraises them of the concept of growth and development and also introduces them to the elementary statistics.
- (II) Pedagogy of the Course Work :
80% Lectures (including expert lectures).
20% assignments, discussion and seminars and tests.



n t I

Motivation: Definition, Nature, Concept. Types of Motives (Physiological, Psychological, Social): Theories of Motivation: Humanistic (Maslow), Need Theories (McClelland and Murray).

Note: The use of non-programmable calculators and statistical tables is allowed in the examination.

YCH GY AC ICA

Max. Marks : 20

Time : 3 Hrs.

Four practicals have to be performed out of six :

1. Level of Aspiration.
2. Facial Expressions in Emotions
3. Public Opinion Survey.
4. Measurement of Motivation
5. Zeigarnik Effect
6. Familiarization of any five apparatuses

u s t r - n s'

1. Baron, R.A. (2003). Psychology, New Delhi : Pearson Education.
2. Ciccarelli, D. (2008). Introduction to Psychology, Delhi: Pearson.
3. Das, J.P. (1998). The Working Mind: An Introduction to Psychology. New Delhi: Sage.
4. Feldman, R.S. (2014). Understanding Psychology. New Delhi : Tata McGraw Hill.
5. Garrett, H.E. (1966). Statistics in Psychology and Education, New Delhi : Vakils, Feffer and Simons.
6. Kerlinger, F. N. (1964). Foundations of Behavioural Research. New York: Rinehart and Winst. nTd {3)-2.566726()-15.060

YCH GY

Psychology

Objectives

- (I) The course introduces to the students the general concepts and historical viewpoints in general psychology. The students would also get an understanding of the principles and theories in different areas like personality, motivation, intelligence, etc. The course also apprises them of the concept of growth and development and also introduces them to the various theories of learning.

Unit III

Development: Concept, Heredity and Environmental Influences. Theories of Development : Erickson, Psychosocial Theory, Piaget's theory of Cognitive Development.

Unit I

Intelligence : Concept, Theories of Intelligence: Spearman, Thurstone, Cattell, Guilford. Measurement of Intelligence (Verbal and Non Verbal Test and Individual and Group Tests).

Note : The use of non-programmable calculators and statistical tables is allowed in the examination.

YCH GY PSYCHOLOGY

Max Marks : 20
Time : 3 Hrs.

Four practicals have to be performed out of the following :

1. Verbal Test of Intelligence
2. Non Verbal Test of Intelligence
3. Performance Test of Intelligence.
4. McCosta & Crae NEO Big Five Personality Inventory.
5. Interest Inventory.
6. Familiarization of any five apparatuses

References

1. Baron, R.A. (2002). Psychology, New Delhi : Pearson Education.
2. Ciccarelli, D. (2008). Introduction to Psychology, Delhi: Pearson.
3. Das, J.P. (1998). The Working Mind: An Introduction to Psychology. New Delhi: Sage.
4. Feldman, R.S. (1996). Understanding Psychology, New Delhi : Tata McGraw Hill.
5. Garrett, H.E. (1966): Statistics in Psychology and Education, New Delhi Vakils, Feffer and Simons.
6. Guilford, J.P., and Fruchter, B. (1981). Fundamental Statistics in Psychology and Education Singapore: McGraw Hill.
7. Jain, S. (2000). Introduction to Psychology. New Delhi: Kalyani.
8. Kerlinger, F. N. (1964). Foundations of Behavioural Research. New York: Holy, Tinvsty snf Eindyon.
9. Morgan, C.T., King, R.A., Weisz, J.R. and Schopler, J. (1987). Introduction to Psychology, Singapore: McGraw, Hill.
10. Singh, A.K. (1986). Tests, measurements and research methods in behavioural sciences. Tata McGraw-Hill.

1

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

- 7 ot*
1. A compulsory question containing 15 short answer type questions shall be set covering the whole syllabus. The students shall attempt any 10 parts. The answer of each part should be in about 25 words. Each part will carry 2 marks (Total 20 marks).
 2. The whole syllabus will be divided into 4 Units. Eight questions will be set out of the

Further Readings

1. Bunnett, R.B. : *Physical Geography in Diagrams*, Pearson Education, Noida, 1987.
2. Dayal, P. : *A Text Book of Geomorphology*, Shukla Book Depot, Patna, 1995.
3. Dury, G.H. : *The Face of the Earth*, Penguin, England, 1973.
4. Gass, I.G. : *Understanding the Earth*, The Artemis Press, Sussex, 1973.
5. Gautam, Alka : *Geomorphology*, Sharda Pustak Bhawan, Allahabad, 2012.
6. Kaur, Dhian : *The Earth*, Kalyani Publishers, Ludhiana, 2000.
7. Kale, V. and Gu840()-3.01205(355.58904(, 35041(8:3615(t)0.89126(h)-6.0241(,)(.)-3.01205()-3.072 Tf 133.8 0 Td ()Tj /R

Cours Cont nt'

I I

Maps: Brief history of map making and types of maps.

16

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

GE G A HY

E E E A II

p r III' HY ICA GE G A HY II' C to o

no r p

Max. Marks : 70
Theory : 60 marks
Internal Assessment : 10 marks
Time : 3 Hours

t s'

- To acquaint the students with the elements and attributes of climatology and oceanography
- To underscore the role of climate in human life
- To emphasize the significance of oceans within the

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

Note :

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

Note :

1. The written and practical examination including viva-voce shall be conducted at the respective college itself except USOL. However, the format of the question paper shall be uniform. A separate paper of 20 marks shall be prepared on the spot by

Further References

1. Monkhouse, F.J. & Wilkinson, H.R. : *Maps and Diagrams*, Methuen & Co., London, Third Edition, 1976.
2. Robinson, A.H. & Randall, D. Sale: *Elements of Cartography*, John Wiley & Sons, New York (Sixth Edition), 1995.
3. Colombo, O.L. & Watkins, M.M.: *Satellite Positioning in US National Report to IUGG*, on Geodesy, 1991.
- 4.

**GA DHIA DIE
E E E**

AHA A GA DHI FA I YA DE A IFE I DIA E G A DA D HAF CA

Max. Marks : 100 marks
Theory : 90 marks
Internal Assessment : 10 marks
Time : 3 hours

Cours t s'

The paper is designed to acquaint the students with the early life of Mahatma Gandhi in India and in London.

o o t Cours or'

90% Lectures (including expert lectures)

10% Unit Tests, S

Unit III

Groundwork

- a) Journey to South Africa
- b) Encounter with Racial Discrimination/Apartheid
- c) Conditions of Indians in South Africa
- d) Birth of Satyagraha

Unit I

Introduction

- a) Disfranchisement of Indians
- b) Establishment of Natal Indian Congress
- c) Asiatic Law Amendment Ordinance
- d) Home Coming

Essential Reading

1. Bhattacharyya Buddhadeva : *Evolution of the Political Philosophy of Gandhi* (Calcutta: Calcutta Book House), 1969.
2. Chandran, Devansan D.S. : *Making of the Mahatma* (New Delhi: Orient Longman), 1969.
3. Gandhi, M.K. : *An Autobiography or The Story of My Experiments with Truth* Ahmedabad: Navajivan Publishing House), 1986, 1995, 2004 editions.
4. Gandhi, M.K. : *Satyagraha in South Africa* (Ahmedabad: Navajivan Publishing House), 1987.
5. Gandhi, M.K. : *Hind Swaraj* (Ahmedabad: Navajivan Publishing House), 1992.
6. Malhotra, S.L. : *Lawyer to Mahatma: Life, Work and Transformation of M.K. Gandhi* (New Delhi : Deep & Deep Publication), 2001.
7. Mishra, Anil Dutta : *Reading Gandhi* (New Delhi: Dorling Kindersley Pearson), 2012.
8. Nanda, B.R. : *Mahatma Gandhi - A Biography*, Ra

GA DHIA DIE

E E E

GA DHIA FIED . GGG E HAF TCA A DI DIA

| | |
|---------------------|-------------|
| Max. Marks | : 100 marks |
| Theory | : 90 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 hours |

Cours t s'

The paper is designed to acquaint the students with life in South Africa and struggle against racial discrimination.

o o t Cours or '

90% Lectures (including expert lectures).

10% Unit Tests, Snap Tests, assignments, attendance and class room participation.

ot '

1. The syllabus has been divided into four (4) units.
2. There shall be 9 questions in all.
3. The first question is compulsory and shall be short answer type containing 15 short answer type questions spread over the whole syllabus and each to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 18 marks i.e. 2 marks of each. It shall carry 18 marks and shall be **o. pu sor** question.
4. Rest of the paper shall contain four (4) units and each units shall have two questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question

I I

G n r n t o I n o t s
a)

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

16

1. A I . . A C . . ICA I

E E E

I . . D C I . . A C . . ICA I I

Max. Marks : 100
Theory : 70 marks
Internal Assessment : 10 marks
Time : 3 Hours
Practical : 20 marks

A

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

**BA I C C ICA I
F E E H**

AEI D C I C C ICA I II

| | |
|---------------------|------------|
| Theory | : 70 marks |
| Internal Assessment | : 10 marks |
| Time | : 3 Hours |
| Practical | : 20 marks |

A t s'

This course will introduce students to the basic terminology of various forms of mass media as well as folk and new media. They will also be apprised with application areas such as Advertising & Public Relations.

B

Pedagogy of the Course Work:
80 % Lectures (including expert lectures).
20 % assignments, discussion and seminars.

I C I F HE A E E E A D HE CA DIDA E '

There shall be 2 questions in all. The first question shall be short answer type containing 10 short questions spread over the whole syllabus and each to be answered in about 50 to 75 words. The candidate is required to attempt any 7 short answer type questions i.e. of 2 marks each. It shall carry 14 marks and is a compulsory question. Rest of the paper shall contain 4 Units. Each Unit shall have 10 questions and the candidates shall be given internal choice i.e. the candidates shall attempt one question from each Unit – 4

ICE AD I I I I I
E E E I
ut n s o sts n-Cours s o n

A E ICE AD I I I I I I I DIA

A Cours t s'

The principal objective of this paper is to acquaint the students with the features of Indian Police Administration along with its history and growth. Considerable attention has been paid to the concept and significance of reforms in Police Administration with special reference to reform initiatives after independence. The endeavor of the course would be to familiarize the students with the Police Administration at the Union Level with special focus on the Union Ministry of Home Affairs and Central Armed Police Forces. The powers functions and role of Police at Union, State, District and Police Station level will also be discussed.

B o o t Cours or'

90 per cent of the Course Content would be delivered through Lecture Method and rest 10 per cent would comprise of:

- (i) Internal Test-5%
- (ii) Academic activities (Seminar, Project, Assignment)-3%
- (iii) Attendance-2%

C Instru tions or p r t t r s n-C n-t s'

- The maximum marks for the paper will be 100. The question paper will be of 90 marks and internal assessment of 10 marks.
- Time allowed will be 3 hours.
- There shall be 9 questions in all.
- The first question shall be compulsory and be short answer type containing 12 short questions spread over the whole syllabus and to be answered in about 25 to 30 words. The candidate is required to attempt any 9 short answer type questions carrying 2 marks (9×2 =18 marks).
- Rest of the paper shall contain 4 Units. Each unit shall have two questions and the candidates shall be given internal choice i.e. the candidates shall have two questions and the candidates shall attempt one question from each unit i.e. four questions in all. Each question will carry 18 marks (4×18 = 72 marks).

D Cours Cont nt'

n t I

Concept, Role and Significance of Police; Origin and development of Police in Ancient, Medieval and British Period. Police Reforms in India after Independence.

Unit II

Organization and Working of Union Ministry of Home Affairs; Organization and Working of Central Police

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

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• E E E

p r ' F DA I A C CE I • E = DIE

Max. Marks : 100
Theory : 90 Marks
Internal Assessment : 10 Marks

E'

- In each of the papers, the candidate will be assess

WOMEN IN INDIA

Practical: Fieldwork in India

| | |
|---------------------|------------|
| Max. Marks | : 100 |
| Theory | : 90 Marks |
| Internal Assessment | : 10 Marks |
| Time | : 3 Hours |

Objectives: The status of women in India has changed over time in relation to historical and cultural realities, levels of consciousness, perceptions and actions of individual women, women's groups and finally State initiatives. This course first aims to acquaint the student with women in the Indian tradition from ancient times to the present, a tradition which has arisen out of the heterogeneity of experience. Further it aims to sensitize the student with the status of women in contemporary India, with a special focus upon the factual situation apart from the major issues confronting Indian women.

Course Contents

Unit I: Status of women in Indian history

- (a) Ancient India
- (b) Medieval India
- (c) Modern India

Unit II: Women in Family

- (a) Origin of the family
- (b) Types of family
- (c) Gender Division of labour in family
- (d) Female headed households

Unit III: Women in Religion

- (a) Religion: Women's Status in major Indian religions - Hinduism, Jainism, Buddhism, Sikhism, Islam, Christianity
- (b)

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

E

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

Further References

1. Ali, Azra Asghar :



HUMAN RIGHTS AND DUTIES ELECTIVE PRACTICE AND APPLICATIONS

Max. Marks : 100
Theory : 90 Marks
Internal Assessment : 10 Marks
Time : 3 Hours

The course is designed to provide adequate theoretical understanding about human rights and duties. It purports to develop a broad understanding of human rights and duties, awareness about the theoretical origins of human rights and their correlation with governance issues.

INTERNAL ASSESSMENT

Note : (i) For written paper, the students will be required to attempt questions in all. **Question Paper** will be **compulsory** comprising of 12 short answer type questions of 2 marks each and will cover the entire syllabus. The students are required to attempt nine short answer type questions out of twelve i.e $9 \times 2 = 18$ marks.

(ii)

UNIT I

DESCRIPTIVE EVALUATION

- Democracy and People's participation.
- Rule of Law: Non-arbitrariness.
- Role of Civil Society

Essential References

1. Brundtland Report : *Our Common future*, (1986) Oxford.
2. David Robertson : *A Dictionary of Human Rights*, (2004) Europa Publications, London.
3. Darren, J.O. Byrne : *Human Rights: An Introduction*, Pearson, (2005) Education Pvt. Ltd., Singapore.
4. Ian Brownlie, et al. (eds.): *Basic Documents on Human Rights*, (2006) Oxford
5. Jayapalan, N. : *Human Rights*, Atlantic Publishers, (2000) New Delhi.
6. Kalpana Kammabiran : *Crafting Human Rights Cultures* (2006), NALSAR University of Law, Hyderabad.
7. Gandhi, P.R. (ed.) : *Blackstone's International Human Rights Documents*, (2001) University, Delhi.

Further References

1. Baxi Upendra (ed.) : *The Right to be Human*, (1987) *Lancet International*, New Delhi.
2. Sanjaoba, N. : *Human Rights in the New Millennium*, (2000) Manas Publications, New Delhi
3. Tripathi, Mani B.N. : *Jur768(i)0.89126(g)-6.96 Tf 89.76 0 Td (H)61(c)-1.78252(e)-1.782505(L)1.78252(a)-6.0.15f 89.76 0*

HUMAN RIGHTS EVEN

Practical

| | | |
|---------------------|---|----------|
| Maximum Marks | : | 100 |
| Theory | : | 90 Marks |
| Internal Assessment | : | 10 Marks |
| Time | : | 3 Hours |

t

This paper purports to deal with promotion and protection of human rights in the international context, particularly in the UN bodies. It aims to i t

I I

H A A D I ED A I B DIE II

- International Labour Organization (ILO)
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- World Health Organization (WHO)

Ess nt s'

1. Philip (ed.) : *United Nations and Human Rights* (1966), Clearndon Press, Oxford.
2. Henry Steiner J. et al (eds.) : *International Human Rights in Context* (1966), Chapter 10, Clarendon Press, Oxford.
3. Saxena, J.N. et al (ed.) : *United Nations for Better World* (1986), Lancers Books, New Delhi.
4. Henkin Louis : *International Bill of Rights: The Covenant on Civil and Political Rights* (1981), Columbia University Press, New York.
5. Krasno Jean A. : *The United Nations* (2005), Viva books, New Delhi.
6. Lauterpacht, Hersch : *An International Bill of the Right of Man* (1945), Columbia University Press, New York.
7. Morsink, Johannes : *The Universal Declaration of Human Rights : Origins, Drafting and Intent* (1999), University of Pennsylvania Press, Philadelphia

Furt r s'

8. UN Centre for Human Rights : *International Human Rights Standards for Law Enforcement*(1966), World Campaign for Human Rights, Geneva.
9. Kapoor, S.K. : *Human Rights*, (2005) Allahabad Central Law Agency:
10. Aggarwal, H.O : *International Law and Human Rights*, (2008) Central Allahabad Law Agency:

Ess nt ~~ns~~ s'

1. Chatterjee, Asim Kumar, *A Comprehensive History of Jainism*, Delhi: Munshilal Manoharlal Publishers, 2000.
2. Dutt R.C.,

H. E. CIE CE

E. E. E. E. E.

o E n t on

Unit on B

III Interior Decoration

- (a) Elements of Art - Line, Form, Pattern, Texture, Colour, Light and Space.
- (b) Principles of Art in relation to interior decoration - Harmony, Balance, Rhythm, Proportion & Emphasis.

IV Colour

- (a) Characteristics of colour
- (b) Colour wheel
- (c) Colour schemes

Unit on C

V Hygiene & Health

- (a) Definition of Hygiene, Health
- (b) Definition of infection, sources, carrier and control
- (c) Definition and types of immunity.
- (d) Immunization schedule

VI Causes & Spread of following diseases.

- (a) Caused by insects – Malaria & Dengue
- (b) Conveyed by ingestion – Enteric Fever, Cholera, Dysentery & Diarrhea
- (c) Spread by droplet infection- chickenpox, measles, mumps & TB.
- (d) Sexually transmitted diseases -AIDS.

Unit on D

VII Food Hygiene

- (a) Definition
- (b) Hygiene during preparation, service and storage of food.
- (c) Domestic purification of water-
 - Aquaguard
 - Reverse Osmosis

VIII Food Adulteration

- (a) Definition
- (b) Common food adulterants and their effects on health.
- (c) Household Methods of testing food adulteration.



AC ICA

Max. Marks : 50 Marks
Practical Theory : 45 Marks
Inter. Asses. : 05 Marks
Time : 3 hours per week.

1. Floor Decoration - Making of Alpana and Rangoli for different occasions.
2. Methods of detecting adulteration in any five foods such as ghee, castor sugar, milk, honey, red chili powder, tea leaves, turmeric powder etc.
3. Table setting, Table manners and Napkin foldings.
4. Making of a Chart/Model/Poster of Colour Wheel or Colour Schemes.
5. Survey of 5 households to study Immunisation schedule.

H E C I E C E E E E E I I

o E n t o n

| Sr. No. | Name of Paper | No. of Papers | Time in hrs. | Marks allotted | Int. Ass. | r t | | | | |
|---------|--|---------------|--------------|----------------|-----------|---------------|--------------|----------------|-----------|-------------|
| | | | | | | No. of Papers | Time in hrs. | Marks Allotted | Int. Ass. | Total Marks |
| 1. | Family Resource Management, Hygiene & Health | 1 | 3 | 45 | 05 | 1 | 3 | 45 | 05 | 100 |

ot : ———

Note: 1. Each Practical group will have 12-15 students.

A E FA I Y E CE, A AGE E HYGIE E HEA H

r s
or
Int Ass
r o s 6 Hours p r,

I NC I F HE A E E E

The question paper will consist of five Sections: A, B, C, D and E. Sections A, B, C and D will have 10 questions from the respective sections of the syllabus and will carry 8 marks each. Section E will consist of objective type questions covering the entire syllabus uniformly and will carry 8 marks.

I NC I F HE CA DIDA E

Candidates are required to attempt one question each from the Sections A, B, C and D of the question paper and the entire section E.

t on A

- I. Resources
 - (a) Introduction
 - (b) Classification

- II. Time Management
 - (a) Steps in making time plans.
 - (b) Tools in time management- peak loads, work curves and rest periods.

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS



B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

ARTS ICA

Max. Marks : 50 Marks
Practical : 45 Marks
Inter. Asses. : 05 Marks
Time : 3 hours per week.

1. Making of fresh flower arrangement for a corner and centre table.
- 2.

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

INDOOR ENVIRONMENTAL POLLUTION

Indoor Environmental Pollution of the in house environment pollutants in the offices, workplaces (School, Bus stand, College and Kitchens). Environmental problems linked to urban and rural lifestyle, Adulterants; Food adulterants (Wheat flour, milk, red chili powder, mustard oil, desi ghee, sweets, artificial sweetness, dyes, food allergens).

ACTIVITY

Basic Laboratory paper

Laboratory work: Tests of food adulterants.

Study the forest products with help of charts and specimens.

Survey reports of indoor environmental pollutants and local forests.

A visit to forest to study different components of these ecosystems.

Books

1. Purochit, S.S., Shammi, Q.J. & Agarwal, A.K. : Text Book of Environment Sciences, Saraswati Pub., Jodhpur, 2007.
2. Dhaliwal, G.S & Kukul, S.S. : Essentials of Environmental Sciences, Kalyani Pub., Ludhiana, 2008.
3. Chundawat, B.S. & Gautam, S.K : Text Book of Agroforestry, Raju Primalai, New Delhi, 2006.
4. Chandna, R.C. : Environmental Geography, Kalyani Pub., Ludhiana, 2006.
5. Sagreiya, K.P. : Forests and Forestry, National Book Trust, New Delhi, 2007.
6. Ralhon, P.K., Dhaliwal, G.S. & Avtar Singh : The Forests-Production and Management, Kalyani Pub., Ludhiana.
7. Arora, S. : Fundamentals of Environmental Biology, Kalyani Pub., Ludhiana, 2008.
8. Dwivedi, A.P. : Forestry in India, Surya Publications, Dehradun, 1993.

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- Determination of soil pH
- Use of Portable Kit
- Determination of organic matter in soil
- Determination of CaCO_3 in soil.
- Determination of available Nitrogen in soil.
- Identification of different fertilizers.
- Determination of pH of water.
- Determination of organic carbon.
- Determination of microbial carbon.
- Determination of available Nitrogen.
- Determination of dissolved Oxygen, BOD.
- Determination of hardness and alkalinity of water.
- Survey reports of different water samples in local and adjoining areas and interpretation of water test report.

Books

1. Singh, R.A. : Soil Physical Analysis, Kalyani Publishers, Delhi, India, 1989.
2. Rao, Sitaram : Introduction to Soil Forestry, Oxford and IBH, New Delhi, 1979.
3. Gupta, P.K. : A Handbook of Soil Fertilizer and Manure, Agrobios, Jodhpur, India, 2003.
4. Miller, R.W. and Donahue, R.L. : Soils in our Environment , Prentice Hall, USA, 1995.
5. Mahajan, S.P. : Air Pollution, Control, TERI Press, Delhi, India, 2009
6. Kudeshia, V.P. : Water Pollution, Prgati Parkashan, New Delhi, India, 2009
7. Hooja, R. : Management of water for Agriculture: Irrigation, Watersheds, and Drainage, Rawat Publications, India, 2009.
8. Goel, P.K. : Water Pollution: Causes, Effects and Control, New Age International Publishers, New Delhi, 2006
9. Ramachandra, T.V. : Soil and Groundwater Production from Agricultural Activities, TERI Press, New Delhi, India, 2006

• A H F • A I C
• E E E I

p r I ' A E G E • E ' Y

Max. Marks : 30
Time : 3 Hours

- ot*
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 4. If internal assessment is to be c

p r II ' CA C I

Max. Marks : 30
Time : 3 Hours

- ot*
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to at



Practical Examination

Max. Marks : 30
Time : 3 Hours

- Note**
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week including tutorial.
 4. If internal assessment is to be conducted in the form of written examinations, then there will be only one written examination in a Semester

Unit I

D'Moivre's theorem, application of D'Moivre

**• A. H. A. IC
E. E. E. II**

p r I ' ID GE • E ' 'P

Max. Marks : 30
Time : 3 Hours

ot 1. The syllabus has been split into two Units: Unit

p r II ' CA C II

Max. Marks : 30
Time : 3 Hours

- 7 ot*
1. The syllabus has been split into two Units: Unit-I and Unit-II. Four questions will be set from each Unit.
 2. A student will be asked to attempt five questions selecting at least two questions from each Unit. Each question will carry 6 marks.
 3. The teaching time shall be five periods (45 minutes each) per paper per week includ

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

Practicals in Hindi

Max. Marks

: 30

Time

: 3 H 45 M

C O M P U T E R S

F I R S T

C H E M I S T R Y

F I R S T

E t Int
Hrs

or A Computer Fundamentals

or B Computer

or C Computer Based on p r C

Note : Practical marks will include the appropriate weightage for proper maintenance of Lab. Record.

or A Computer Fundamentals

or B Computer
or C Computer Based on p r C

Note (i) The question paper will consist of Four units.

(ii) Examiner will set total of 1 E question from ()Tj /R88(E)4.34894W

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I III

p s o s o t r : System and Application software;

I II

Introduction to graphical user interface, window operating system, Anatomy of windows, organizing folders and files, recycle bin, my computer, windows explorer, control panel.

I III

Word Processing : Basics of Word Processing; Opening, Creating, Saving, Printing and Quitting Documents, Using the Interface (Menu Toolbars), Editing Text (Copy, Delete, Move), Finding and Replacing Text, Spell Check, Autocorrect; Auto Text, Character formatting, Page formatting; Document Enhancement; Adding Borders and shading, Adding Headers and Footers, Setting up Multiple columns, Sorting blocks, Adjusting Margins and Hyphenating Documents, Creating Master Documents, Creating Data Source, Merging Documents, Using Mail merge feature for labels and envelopes; Inserting Pictures, Tables, Working with equations.

I I

Spread Sheet : Worksheet overview, Row, Column, Cells, Menus, Creating Worksheet, Opening, Saving, Printing Worksheets; Calculations, Auto fill, Working with Formulae, Data Formatting (number formatting, date formatting), Working with Ranges, Establishing Worksheet links; Creating, Sorting and Filtering Data Base; Creating chart, Adding Titles, Legends etc. to charts, Printing Charts, Creating Macros, Record Macros, Running Macros, Assigning Macros to Buttons, Functions (Statistical, Financial, Mathematical, String, Date and Time).

MS-Power Point: Creating, Saving, Printing Presentation; Selecting Design Templates, Animations and Transitions, Auto Content Wizard.

u s t r u c t u r e s

1. Ludd Robbins : *Mastering DOS.*
2. Alan R. Miller : *The ABC's of DOS-6.2.*
3. Richard Allen King : *MS-DOS H. B.*
4. Gilbert Held : *IBM PC and PCXT User's Reference Manual.*
5. Cowart, Robert : *Using Microsoft Windows 2000 Professional, Que Publishing, 2000.*
6. Taxali, Ravikant : *PC Software Made Simple, New Delhi.*
7. Mansfield, Ron : *Compact Guide to Windows, Word & Excel.*

p r e s e n t a t i o n s

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C O M P U T E R S

C H E F E X A M I N A T I O N

E C D E E

**E t Int
Hrs**

p r C or A p r t n st Con pts

p r C or B C r o r n

p r C r t C r t B s on p r C

p r C p r t n st Con pts

**t t o t t s t u d e n t s r o u n d o p r t n s s t o n p t s r t n t o n n
p r o s s s o r n o s**

- Not**
- (i) The question paper will consist of Four units.
Examiner will set total of **1 E** questions comprising **4** questions from each unit and **1 E** compulsory question of short answer type covering the whole syllabi.
 - (iii) The students are required to attempt **1 E** question from each unit and the compulsory question.
 - (iv) All questions carry equal marks unless specified.

I I

Operating Systems (OS): Introduction, need of operating system and functions of operating system, Types

Decision Control Structures ' Decision making with IF-statement, IF-Else and Nested IF-Else, The else if Clause.

Loop Control Structures ' While and do-while, for loop and Nested for loop,

Case Control Structures ' Decision using switch, The goto statement.

Functions

Functions



STATISTICS

- Notes:**
1. A candidate shall offer this subject in B.A./B.Sc. only if he/she takes up Mathematics as a subject in B.A./B.Sc.
 2. There are two papers code named papers 101 and 102 in the subject of Statistics in B.A./B.Sc. 1st Semester. These are to be taught simultaneously throughout the Semester.
 3. 8 lectures (45 minutes each) for theory per week and 4 lectures (45 minutes each) for practical per week amounting in all to 12 lectures per week for two papers (one theory and one practical) shall be allotted for the teaching.

PRACTICALS

| | |
|---------------------|-----------|
| Max. Marks | : 75 |
| Theory | : 65 |
| Internal Assessment | : 10 |
| Time | : 3 Hours |

Objective: The objective of the course is to make the students conversant with various techniques used in summarization and analysis of data. The focus will be both on theoretical as well as practical approach. This course will lay the foundation to probability theory of outcomes of real life random experiments. The focus will be on theoretical as well as practical approach.

Notes:

There will be in all nine (9) questions, all of equal marks. The first question is compulsory and will be of short answer type covering the entire syllabus. Out of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each Unit

Simple non-programmable calculator is allowed

Statistical tables and log tables will be provided on request.

UNIT I

Important Concepts in Probability: Random experiment, trial, sample point and sample space, definition of an event, mutually exclusive, exhaustive, independent and equally likely events. Definition of probability – classical and relative frequency approach to probability, their demerits and axiomatic approach to probability. Properties of probability based on axiomatic approach, conditional probability, Bayes' theorem and its applications (concepts and simple applications).

Random Variables: Definition of discrete random variables, probability mass function, continuous random variable, probability density function, illustrations of random variables and their properties, distribution function and its properties, expectation of a random variable and its properties – moments, (only definition), moment generating function. Two dimensional random variables- joint, marginal and conditional distributions . Distribution of random variables.



n t II

Collection of Data: Primary data – designing a questionnaire and a schedule. Secondary data- its major sources including some government publications. Concept of a Statistical Population and samples from a population; qualitative and quantitative data; discrete and continuous data.

Presentation of Data: Diagrammatic representations of data, frequency distribution, graphical representation,

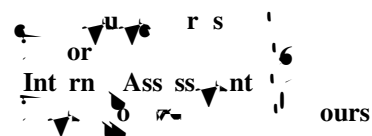


STATISTICS

TEACHING

1. A candidate shall offer this subject in B.A./B.Sc. only if he/she takes up Mathematics as a subject in B.A./B.Sc.
2. There are two papers code named papers 103 and 104 in the subject of Statistics in B.A./B.Sc. 2nd semester. These are to be taught simultaneously throughout the semester.
3. 8 lectures (45 minutes each) for theory per week and 4 lectures (45 minutes each) for practical per week amounting in all to 12 lectures per week for two papers (one theory and one practical) shall be allotted for the teaching.

PROGRAMME OBJECTIVES



- This course will lay the foundation to probability theory of outcomes of real life random experiments through various Statistical distributions.
The objective of the course is to make the students conversant with various techniques used in analysis of data.

ASSESSMENT

- There will be in all nine (9) questions, all of equal marks. The first question is compulsory and will be of short answer type covering the entire syllabus. Out of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each Unit

Simple non-programmable calculator is allowed

Statistical tables and log tables will be provided on request.

UNIT I

Standard Univariate Distributions and their Properties: Discrete uniform, Binominal, Poisson, Hyper geometric, Geometric and negative binomial distributions, uniform, normal, exponential, gamma, beta distributions.

Bivariate normal distribution and associated marginal and conditional probability distributions (without derivation).

Chebyshev's inequality and its applications, statements and applications of weak law of large numbers, and Central Limit Theorems (De-moivre's – Laplace and Lindeberg -Levy).

UNIT II

Bivariate Data: scatter diagram, product moment correlation coefficient, properties and coefficient of determination. Spearman's rank correlation coefficient. Simple linear regression and its properties, principle of least square, fitting of linear regression and related results



Multivariate Data: multiple and partial correlation in three variables. (only results no derivations).

Analysis of Categorical Data (using 2x2 contingency table): consistency of categorical data independence and association of attributes. Various measures of association:-Yule coefficient, coefficient of colligation & coefficient V_{AB} .

References

1. Meyer P.L (1971) : *Introductory Probability and Statistical applications.* Addison Wesley.
2. Goon A.M., Gupta M.K., Das Gupta.B. (2005) : *Fundamentals of Statistics, Vol. I, World Press, Calcutta.*
3. Daniel, W.W. and Cross C.L.(2013) : *Biostatistics: A Foundation for analysis in the Health Sciences, Tenth Edition, Wiley*

Additional References

1. Mood A.M, Graybill F.A and Boes D.C. (1977) : *Introduction to the Theory of Statistics, McGraw Hill.*
2. Miller, I. and Miller, M. (2002) : *John E. Frend's Mathematical Statistics (6th addition, low price edition). Prentice Hall of India.*
3. Sheldon M.R. (2000) : *Introduction to Probability Models, Fourth Edition.*
4. Croxton F.E, Cowden D.J and Kelin S (1973) : *Applied General Statistics, Prentice Hall of India.*
5. Lipshut Z,S., Lipson, Lipson, M.L. and Jain, K. (2010) : *Schaum's outlines on Probability, Second Special Indian Edition, Tata McGraw Hill Education Private Limited.*
6. Spiegel, M.R, Stephens, L.J. and Kumar N. (2010) Private Limited. *Schaum's outlines Statistics, (4th edition) Tata McGraw Hill Education*

Practicals



Practicals

The Practical Question Paper will contain five questions from the following topics. A student will be required to attempt three questions, each of 5 marks, in three hours duration.

Viva voce and record of the year will carry 5 marks each.

1. Product Moment Correlation.
2. Spearman's rank correlation

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS



APPLIED STATISTICS

SEMESTER-II

- Notes:**
1. This course shall not be opted for along with courses in B.A. /B.Sc Mathematics and/ or B.A. / B.Sc. Statistics.
 2. The candidate opted for this course will not be eligible for admission to M.A./ M.Sc. Statistics.
 3. There is one paper with code 102AS in B.A./B.Sc. Semester-II having a total of 100 marks.
 4. 9 Lectures of 45 minutes each per week shall be allotted for the teaching.

Prerequisites

or
Intermediate
Statistics

- Objectives:**
1. This course will lay the foundation to probability theory of outcomes of real life random experiments through various Statistical distributions.

Contents

1. There will be in all nine (9) questions, all of equal marks. The first question is compulsory and will be of short answer type covering the entire syllabus. Out of the remaining eight (8) questions, four (4) questions will be set from each Unit. The candidate will be required to attempt five questions in all including the compulsory first question and two questions from each Unit
2. Simple non-programmable calculators are allowed.
3. Statistical tables and log tables will be provided on request.

Unit I

Random experiments, sample space, events probability

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS



Books

Essentials

1. *Text Book of Vibrations and Waves* by S.P. Puri (Macmillan India Ltd.).
2. *Physics of Vibrations and Waves* by H.J. Pain, ELBS & John Wiley, London.

References

1. *Vibrations and Waves* by A.P. French (Arnold Heinemann India, New Delhi).
2. *The Mathematics of Waves and Vibrations*

HYIC ACICA

**Practicals on Anso Experiment Director or students
First semester**

The students are required to perform all the Nine experiments from each of the Units I and Unit II. The Practical examination will be held along with the second semester examinations.

The aim of project work is to develop the scientific and technical temper in the students and as such it may consist of development of a laboratory experiment, fabrication of a device or electronic circuit etc. The student will prepare a project report of about 10 pages. Assessment of the project work will be done on the basis of effort put in the execution of the project, report prepared, and viva-voce.

General Instructions

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B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

1. To print out all natural even/odd numbers from a given series of natural numbers.
2. Numerical solution of equations of motion.
3. To calculate first ten prime numbers.

I II

Force on a current carrying conductor in a magnetic field.

Force on a conductor carrying current in a magnetic field.

I AC Circuits

Phase relationship

Study of phase relationship between currents and voltages in ac circuits.

Impedance triangle

Study of phase relationships using impedance triangle for LCR circuit and calculate impedance.

II Resonance in AC Circuits

Resonance

Concepts of resonance and Q-value.

Problems

(i) Resonance in a series LCR circuits for different R-value and calculate Q-value.

(ii) value and c(n)6.0241(a)-15.060041(f)7.69778(e)-1.78252(r)-4.35041(e)-1.78252(n)6.252(t)0.89126(e)-1.7206030.89126

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

Computer subjects Elementary C language programs, flowchart and their interpretation.

1. To rearrange a list of numbers in ascending and descending orders.
2. To compile a frequency distribution and evaluate moments such as mean; standard deviation etc.
3. To evaluate sum of finite series and the area under a curve.

Reference Books

1. "B.Sc. Practical Physics by C.L. Arora, S.Chand & Co. (2014).
2. "A Laboratory Manual of Physics for Undergraduate Classes" by D.P. Khandelwal.
3. "Programming with C, Schaum series" by Byron Gottfried & Jitender Chhabra

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I II

Physical interpretation of Maxwell's equations, E.M. waves and wave equation in a medium having finite permeability, permittivity and conductivity. Energy flow due to EM wave - Poynting vector, Impedance of a dielectric to EM waves. EM waves in a conducting medium and skin depth. Impedance and Refractive index of a dielectric and a conductor.

Reflection and transmission of EM waves at a boundary of two dielectric media for normal and oblique incidence.

Reflection of EM waves from the surface of a conductor at normal incidence.

Essential References

Books suggested

1. *Text Book of Vibrations and Waves* by S.P. Puri (Macmillan India Ltd.).
2. *Physics of Vibrations and Waves* by H.J. Pain, ELBS & John Wiley, London.
3. *EM Waves and Radiating Systems* by Edward C. Jordan and K.G. Balmain, Prentice Hall.

Further References

1. *Vibrations and Waves* by A.P. French (Arnold Heinemann India, New Delhi).
2. *The Mathematics of Waves and Vibrations* by P.K. Ghosh (McMillan India).
3. *Waves and Oscillations* by N. Subrahmanayam & B. Lal (Vikas Pub., Delhi).

Books to be read

Essential

1. *Electricity & Magnetism*, A.S. Mahajan & A.A. Rangwala (Tata McGraw Hill).
2. *Fundamentals of Electricity and Magnetism* by Arthur F. Kipp.
3. *Electricity and Magnetism, Berkeley Physics Course, Vol. II* by E.M. Purcell.
4. *Introduction to Classical Electrodynamics* by David Griffith, Prentice Hall.

Further

1. *Electricity & Magnetism*, 4th Edition, W.J. Duffin.
2. *EM Waves and Radiating Systems*, Edward C. Jordan and K. G. Balmain, Prentice Hall.

HYBRID COURSE

For the first two semesters, the students will be required to read the following books for the first two semesters. The students will be required to read the following books for the first two semesters.

C **str o o G s s n-r-s B o E nts** **I⁻ III** **Hrs**
 Chemical properties of the noble gases, chemistry of xenon, structure and bonding in xenon compounds. Comparative study, diagonal relationships, salient features of hydrides, solvation and complexation tendencies including their function in biosystems, an introduction to alkyls and aryls.

C **Bon-n I** **I⁻ I** **Hrs**
 Covalent Bond – Valence bond theory and its limitations, directional characteristics of covalent bond, various types of hybridization and shapes of simple inorganic molecules and ions. BeF_2 , BF_3 , CH_4 , PF_5 , SF_6 , IF_7 , SnCl_2 , XeF_4 , BF_4^- , PF_6^- , SnCl_6^{2-} . Valence shell electron pair repulsion (VSEPR) theory to NH_3 , H_3O^+ , SF_4 , ClF_3 , ICl_2^- and H_2O . MO theory, homonuclear (elements and ions of 1st and 2

Part II: Organic Chemistry I

Hrs
r s'
Hrs Hrs-
r 0-6-

Basic Concepts of Chemistry

To teach the fundamental concepts of Chemistry and their applications. The syllabus pertaining to B.Sc. (GENERAL) (Semester System) in the subject of Chemistry has been upgraded as per provision of the UGC module and demand of the academic environment. The course contents have been revised from time to time as per suggestions of the teachers of the Chemistry working in the Panjab University, Chandigarh and affiliated colleges. The syllabus contents are duly arranged unit wise and contents are included in such a manner so that due importance is given to requisite intellectual and laboratory skills.

I**Hrs****Hybridization**

Hybridization, bond lengths and bond angles, bond energy, localized and delocalized chemical bond, Van der Waals interactions, resonance, hyperconjugation, aromaticity, inductive and field effects, hydrogen bonding.

Reaction Mechanisms

Curved arrow notation, drawing electron movements with arrows, half-headed and double-headed arrows, homolytic and heterolytic bond breaking. Types of reagents-electrophiles and nucleophiles. Types of organic reactions. Energy considerations.

Reactive intermediates-Carbocations, carbanions, free radicals, carbenes, arynes and nitrenes (with examples). Assigning formal charges on intermediates and other ionic species.

Methods of determination of reaction mechanism (product analysis, intermediates, isotope effects, kinetic and stereochemical studies).

II**Hrs****Alkanes**

Isomerism in alkanes, sources, methods of formation (with special reference to Wurtz reaction, Kolbe reaction, Corey-House reaction and decarboxylation of carboxylic acids), physical properties and chemical reactions of alkanes

Mechanism of free radical halogenation of alkanes: Orientation, reactivity and selectivity. Cycloalkanes – nomenclature, methods of formation, chemical reactions, Baeyer's strain theory and its limitation. Ring strain in small rings (cyclopropane and cyclobutane), theory of strainless rings. The case of cyclopropane ring: banana bonds

III**Hrs****Isomerism in Organic Compounds I**

Concept of isomerism, Types of isomerism.

Optical isomerism – Elements of symmetry, molecular chirality, enantiomers, stereogenic center, optical activity, properties of enantiomers, chiral and achiral molecules with two stereogenic centers, diastereomers, threo and erythro diastereomers, meso compounds, resolution of enantiomers, inversion, retention and racemization.

Relative and absolute configuration, sequence rules, D & L and R & S systems of nomenclature.

PHYSICS

Hrs
r s'
Hrs Hrs-
r 0's-

BASIC PHYSICS

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

Practicals

6

INORGANIC CHEMISTRY

(a) QUALITATIVE ANALYSIS:

Semimicro Analysis, cation analysis, separation and identification of ions from groups I, II, III, IV, V and VI. Anion analysis (4 ions).

Instruction to Examiners: Four ions with no interference (anions such as PO_4^{3-} , BO_3^{3-} and similar anions like Cl^- , Br^- , I^- etc. and cations from the same group) may not be given.

(b) QUANTITATIVE ANALYSIS:

Volumetric titrations involving acid-base, KMnO_4 and $\text{K}_2\text{Cr}_2\text{O}_7$.

There are three experiments - one involving acid-base titrations, one involving KMnO_4 and one involving $\text{K}_2\text{Cr}_2\text{O}_7$.

1. Determination of strength of Na_2CO_3 solution by titrating it against a standard solution of HCl .
2. Determination of molarity of KMnO_4 solution by titrating it against a standard solution of Oxalic acid.
2. $\text{K}_2\text{Cr}_2\text{O}_7$

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SY

Instru t ons or p p r s tt rs n r - n r - t s'

- Exa n r w s t tota o l E qu st ons +o pr s n qu st ons ro unt an l E
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 Co pu sory qu st on
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Books suggested

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 3 ' ; / # ! " # \$! % "& (# 8 ' + 9 - 2
10. Metz, C.R., Theory and Problems of Physical Chemistry; Schaum's outline series, 2nd edition, Pubs: McGraw-Hall Book company, 1989.

Practicals

6

ORGANIC CHEMISTRY AND GREEN CHEMISTRY PRACTICALS

Crystallization and determination of melting points

Concept of induction of crystallization

1. Phthalic acid from hot water (using fluted filter paper and stemless funnel).
2. Acetanilide from boiling water.
3. Benzoic acid from water

PHYSICAL CHEMISTRY

1. Refractive indices
Determine the Refractive indices of given liquids (water, acetone, methanol,

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

I I

Bacteria: Salient features, types and cell structure.

Algae: General Characters; systematic position, structure and life history of *Oscillatoria* (Cyanophyceae) *Volvox*, *Cladophora* (Chlorophyceae); *Vaucheria* (Xanthophyceae).

I II

Systematic position, structure and life history of *Dictyota* (Phaeophyceae); *Batrachospermum* (Rhodophyceae) and economic importance of algae.

I III

Fungi: General characters; systematic position, str

p r B' C B o o

This paper deals with the basic structural unit of life i.e. Cell & its organelles. It provides an insight into structural and cytological basis of functional differentiation in plants. Coupled with the study of prokaryotic and eukaryotic diversity of life forms included in Paper-A, the course material of this paper gives an idea about cellular, molecular and biochemical basis of such differentiation.

Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

I I

Ultrastructure and functions of a typical plant cell and its organelles: Nucleus, Mitochondrion, Plastids, Ribosome, Endoplasmic reticulum, Golgi apparatus, Lysosomes; Structure and functions of cell wall and plasma membrane: fluid mosaic model only.

I II

Physical structure of chromosome; Giant chromosomes: Polytene and Lampbrush chromosomes; Chromosomal alterations (deletion, duplication, inversion, translocation) and their importance; Variations in chromosome number, (aneuploidy and polyploidy) introduction and their importance.

I III

Cell divisions: Mitosis and Meiosis in plants and their significance, Synaptonemal complex, DNA: Structure (Watson and Crick model), Nucleosome, types of DNA

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

u **st** **or** **tor** **r** **s** **or** **F** **rst** **st** **r** **'**

1. Study of morphology of various genera included in algae and fungi.
2. Study of Crustose, Foliose and Fruticose types of Lichen thalli.
3. Histopathological study of White rust of crucifers, Loose smut of wheat, Black rust of wheat and Red rot of sugarcane.
- 4.

**B
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p r A^t nt D rs t II

t^t The basic objective of this paper is to make the students aware about the diversity in various life forms of plant kingdom. It gives an idea about how different life forms have evolved from simpler to complex ones. A sequential study ranging from Bryophytes (the amphibians of plant kingdom) and then to Pteridophytes -the first vascular land plants, would enable students to have a broad prospective of evolutionary trends in plant kingdom.

n e t o o o Teaching



p r B ' G n t s

t ' This paper deals with various aspects of hereditary trends observed in successive generations. It provides an insight into genetic basis of such evolutionary trends in plants. Coupled with the study of variations in life forms included in Paper A, the course material of Paper B provides an idea about the important role that genetics plays in structural and functional differentiation of plants.

n . t o o o ' Teaching methodology includes series of lectures, making use of charts, transparencies, LCD, Models, slides, practical demonstrations, extension lectures from experts, field visits, discussions, quiz competitions etc. In practicals, students would be provided with fresh/preserved materials for their morphological and anatomical studies making use of microscopes and binoculars and hands-on tools/equipment etc.

I I

Mendelism : Mendel's experiments and results, Mendel's Laws of Dominance, Segregation and Independent assortment; Linkage: complete and incomplete linkage, linkage groups, linkage maps, importance of linkage, cytological interpretation of Mendelism.

I II

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

u s t or tor r s s or o n s t r'

1. Study of morphology of various genera mentioned in Bryophyta and Pteridophyta.
2. I. Preparation of permanent stained slides of :

| | | | |
|-------------------|----------------|--------------------|--|
| <i>Marchantia</i> | (V.S. Thallus) | <i>Selaginella</i> | (T.S. Stem) |
| <i>Riccia</i> | (V.S. Thallus) | | |
| <i>Anthoceros</i> | (V.S. Thallus) | <i>Equisetum</i> | (T.S. Aerial stem passing through internode) |
| <i>Funaria</i> | (T.S. Stem) | <i>Pteris</i> | (T.S. Petiole and leaflet) |

Guinea or Botany Experiment'

| | | |
|---------------------|---|-------|
| Max. Marks | : | 20 |
| Practical | : | 18 |
| Internal Assessment | : | 02 |
| Time | : | 3 hrs |

1. Cut T.S., stain and make a permanent mount of specimen A. Identify, draw its labelled diagram and show the slide to the examiner. 06
2. Problem related to Mendalism or gene interaction (to be announced by the examiner). 04
3. Identify the slides B and C giving at least two reasons for each. 04
4. *Viva-voce* & Practical Note-book. 2+2= 04

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

Z O O G Y

F I R S T S E M E S T E R

| | Time | Theory | Internal Assessment | Marks |
|---|--------|--------|------------------------------|-------|
| p a r t I: Biodiversity & Cell Biology – I | 3 hrs. | 36 | 4 | 40 |
| p a r t II: Biodiversity & Cell Biology – II | 3 hrs. | 36 | 4 | 40 |
| r e s u l t : One paper covering entire syllabus of both the papers. | 4 hrs. | 18 | 2 | 20 |
| | | | T o t a l M a r k s : | 100 |

E C O L O G Y

| | Time | Theory | Internal Assessment | Marks |
|---|--------|--------|------------------------------|-------|
| p a r t I: Biodiversity & Ecology - I | 3 hrs. | 36 | 4 | 40 |
| p a r t II: Biodiversity & Ecology - II | 3 hrs. | 36 | 4 | 40 |
| r e s u l t : One paper covering entire syllabus of both the papers. | 4 hrs. | 18 | 2 | 20 |
| | | | T o t a l M a r k s : | 100 |

Note: The number of hours for Theory and Practical per week shall be 6 and 4 hours, respectively.

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

A E 'H' BI DI E 'Y CE BI GY II Z i

Max. Marks : 40 marks
Theory : 36 marks
Internal Assessment : 4 marks
Time : 3 Hrs.

I I

D t -stur- o t o o n n t p s'

Books

1. Essential Cell Biology – Alberts, Garland Publishers, New York, 3rd edition, 1997.
2. The Cell : A Molecular approach – G.M. Cooper, Robert & Hausman Sinauer Associates Inc., 4th edition, 2007.
3. Molecular Cell Biology – Harvey Lodish, Arnold Berk, Chris A. Kaiser, Monty Krieger, Mathew P. Scott. Anthony Bretscher, Hiddle Ploegh, W.H. Freeman, 6th edition, 2007.
4. Cell & Molecular Biology – G. Karp. John Wiley & Sons, 2001.
5. Cell & Molecular Biology - De Robertis, E.D.P. & De Robertis, E.M.F., W.B. Saiunders Co., Philadelphia, 8th edition, 1995.
6. Cell Biology - Powar, C.B., Himalaya Publishing House, Bombay, 1999.
7. Invertebrates Vol.I-VI- L.H. Hyman, Mcgraw Hill, 1955.
8. Invertebrate Zoology – E.L. Jordan, S. Chand, 2001.
9. Modern Text Book of Zoology : Invertebrate – R.L. Kotpal, Rastogi Publications, 10th edition, 2009.
10. A Manual of Practical Zoology : Invertebrate – P.S. Verma by S. Chand, 2005.
11. Practical Zoology Invertebrate – S.S. Lal – Rastogi Publications, 2009.
12. Text Book of Zoology – Dhami & Dhami, Pardeep Publications, 1983.
13. Zoology for Degree Students – V.K. Aggarwal, S. Chand Publications, 2011.

AC ICA ' r t s on or p rs Z i i Z i i

Z GY
EC D E E E

p r I 'BI DI E 'Y EC GY I Z

| | |
|---------------------|------------|
| Max. Marks | : 40 |
| Theory Exam. | : 36 marks |
| Internal Assessment | : 4 marks |
| Time | : 3 hours |

ot ' Nine questions are to be set. Question No.1 is compulsory consisting of short answer type Questions covering the whole syllabus. It will have 8 parts of 1 mark each. Two questions are to be set from each Unit. One question is to be attempted from each Unit. In all, Five questions are to be attempted including compulsory one. 50% of the questions are to be split up into 2-4 sub-parts.

I I

D t -stur- o t o o n n t p s '

Arthropoda : *Periplaneta*
Social organizations in insects (honey bee and termite).

C ss t on upto or- rs t r o o not n- ono. port n n o t o o n '

Arthropoda : *Apis*, *Lepisma* (Silver Fish), *Schistocerca* (Locust), *Poecilocus* (Ak Grasshopper)
Gryh35(s)4.48415(t)-3..6889(40.120474()6.47276(o)-12.6889(f)12.57()-6.34447()7134603()-6.l()-6.34456(G)4.2.



I III

- Ecology : Subdivisions and Scope of ecology.
- Ecosystem : Components, ecological energetics, food web, introduction to major ecosystems of the world.
- Ecological factors : Temperature, light and soil as ecological factors.

I I

- Nutrients : Biogeochemical cycles & concept of limiting factors.
- Ecological Adaptations : Morphological, physiological and behavioural adaptations in animals in different habitats.
- Population : Characteristics and regulation of pop

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

p r I I B I D I E Y EC GY I I Z

Max. Marks : 40
Theory Exam. : 36 1633()-336.34603(3)0.

Books

1. Invertebrates Vol.I-VI- L.H. Hyman, Mcgraw Hill, 1955.
2. Invertebrate Zoology – E.L. Jordan, S. Chand, 2001.
3. Modern Text Book of Zoology : Invertebrate – R.L. Kotpal, Rastogi Publications, 10th edition, 2009.
4. A Manual of Practical Zoology : Invertebrate – P.S. Verma by S. Chand, 2005.
5. Practical Zoology Invertebrate – S.S. Lal – Rastogi Publications, 2009.
6. Text Book of Zoology – Dhami & Dhami, Pardeep Publications, 1983.

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

3. Demonstration of dissection of the following animals through video clippings/charts/models:
Periplaneta : Digestive and nervous systems; mouth parts and trachea.
Pila : Pallial complex, digestive and nervous systems, Radula.
4. Study of animal adaptations with the help of specimens, charts and models.
5. Study of Zoogeographical regions and their fauna.
6. Study of biotic components of an ecosystem.
7. Study of different types of nests in birds.
8. Study & preparation of zoogeographical charts/maps.

Note: Candidates will be required to submit their original note books containing record of their laboratory work (Drawing etc.) initialed and dated by their teachers at the time of practical examination.

Guidelines for Practical Examination

Max. Marks : 20

Practical Exam. : 18 marks

Internal Assessment : 2 marks

Time : 3 hours

1. Draw a labeled diagram of any given system of an animal and explain it to the examiner
Sketch and demonstrate it to the examiner. 2 marks
2. Identify the slides (A-C) and give two important reasons for each identification. 3 marks
3. Identify and classify the specimens (D-G) up to orders. Write a short note on the habitat, special features, feeding habit and economic importance. 6 marks
4. Identify the type of adaptation/type of nest/biotic components with a short note. 1 marks
5. Mark Zoogeographical region on the given physical map along with endemic fauna and climate. 2 marks
6. Viva voce 2 marks
7. Practical record, charts/maps and project report of excursion to a place of zoological interest 2 marks

BIOCHEMISTRY I

INSTRUCTIONS FOR ASSESSMENT:

1. Total No. of questions will be nine. All questions carry equal marks.
2. Q. No. 1 will be compulsory. It will consist of short questions covering the entire syllabus
3. Besides question Number 1, there will be 4 sections of 2 questions each.
4. All other questions may contain 2-3 parts.
5. Questions should be uniformly spread over the entire syllabus.
6. Students will be required to attempt 5 questions in all including Q. No. 1 and at least one question from each of the 4 sections.

Practicals

(Three periods per week)

to be done out of the following

EC-I I

1

Introduction to biochemistry and its scope. Water: physical properties, as a biological solvent and structure of water, dissociation of water. pH and pOH, buffer solution. Henderson Hasselbalch equation, acid-base indicators, buffers and physiologically important buffers, dialysis and osmosis.

EC-I II

2

Definition and classification of carbohydrates. Fischer and Haworth structures of carbohydrates. Stereoisomerism, and mutarotation. Anomeric forms of monosaccharides. Derivatives of monosaccharides (glycosides, deoxysugars, amino sugars and other derivatives of biological importance). Oligosaccharides of biological importance (structure of maltose, lactose, sucrose, cellobiose, trehalose, raffinose). Characteristic reactions of monosaccharides: reactions with hydrazine, hydrogen cyanide, hydroxylamine; reduction and oxidation of sugars; periodic acid oxidation; action of alkali upon sugars; acylation and methylation of sugars. Homo- and hetero-polysaccharides (structures of amylose, amylopectin, starch, inulin, pectins, dextrins, glycogen, cellulose, chitin). GAGs as components of connective tissue. Polysaccharides of bacterial cell wall, glycoproteins

EC-I III

3

Definition and classification of fatty acids (saturated and unsaturated). Essential fatty acids. Important reactions of functional groups present in fatty acids. Characteristics of fatty acids and fats (saponification, iodine, acid, acetyl and peroxide values). Refractive index, m. p., b.p. and their relation to molecular size. Properties of glycerol. Fats as source of energy. Waxes. Structures, characteristics and functions of lipids: triacylglycerols, phospholipids: lecithins (Phosphatidylcholines), lysolecithins, cephalins (phosphatidylethanolamines), phosphatidylserines, Phosphatidyl inositol, sphingomyelins, plasmalogens), cerebrosides, gangliosides, sulfatides.

EC-I I

4

Lipoproteins— composition, classification and biological functions. Liposomes.
Terpenes and steroids – Terpenes of biological significance e.g. carotenoids, phytol. Cholesterol and other animal sterols. Colour reactions of sterols. Sterols of yeast and fungi (mycosterols). Phytosterols. Steroidal hormones. Bile acids.
Structure and properties of eicosanoids-prostaglandins, leukotrienes, thromboxanes, prostacyclins

u s t r - B o o s'

1. Nelson D.L.Cox M M : Biochemistry, Worth Publishers Inc., New York. (4th Edition, 2005)
2. Conn E.E&Stumpf. P.K. : Outlines of Biochemistry, John Wiley & Sons, U.S.A.
3. G.Zubay : Biochemistry, Maxwell Macmillan Pub. Com., New York. (4th Edition, 1998).
4. Robert K. Murray P.A. : Harper's Illustrated Biochemistry, Prentice Hall Int., D.K. Granner and V.W. Rodwell London (27th Edition, 2006).

AC ICA'

• r s' n p r t o o u r s p r

1. Qualitative tests for carbohydrates.
2. Estimation of carbohydrate by anthrone method.
3. Estimation of ascorbic acid by dye method.
4. Verification of Beer-Lambert law for nitrophenol or cobalt chloride.
5. Qualitative tests for cholesterol and lipids
6. Determination of saponification value of fats
7. Determination of iodine value of fats.
8. Estimation of phospholipids by vanillin method.

p r B' t r o n o n t n n B o. o u s. r s' EC I I

tur s'

Amino acids: common structural features. Stereoisomerism and RS system of designating optical isomers. Classification based on the nature of "R" groups. Amino acids present in proteins and non-protein amino acids. Specialized role of amino acids. Physical and chemical properties of amino acids. Titration of amino acids. Rigid and planar nature of a peptide bond. Folding of peptide chains into regular repeating structures (0 helix, 1 pleated sheets). 1 -turn in polypeptides. Chemical synthesis of polypeptides. Biologically active peptides.

EC I II

tur s'

Proteins: levels of protein structure. Determinatio

ACICA

Enzymes

- I. Estimation of proteins using UV absorbance and biuret method.
- II. Estimation of proteins using Lowry/Bradford method.
- III. Isoelectric pH of casein.
- IV. Ammonium sulphate fractionation of serum proteins.
- V. Separation of albumin from serum using anion-exchange chromatography.
- VI. SDS-PAGE analysis of proteins.

Enzymes

Enzymes

Introduction to enzymes. General characteristics of enzymes. IUB system of nomenclature and classification of enzymes. Prosthetic group. Holoenzyme, apoenzyme, cofactors, isoenzymes and their clinical significance and zymogens, coenzymes (NAD/NADP, FMN/FAD, coenzyme A, TPP, pyridoxal phosphate, tetrahydrofolate) and their biochemical functions, assay of enzyme activity, units of enzyme activity. Active site of enzymes

EC I I

Enzymes

Introduction to enzymes. General characteristics of enzymes. IUB system of nomenclature and classification of enzymes. Prosthetic group. Holoenzyme, apoenzyme, cofactors, isoenzymes and their clinical significance and zymogens, coenzymes (NAD/NADP, FMN/FAD, coenzyme A, TPP, pyridoxal phosphate, tetrahydrofolate) and their biochemical functions, assay of enzyme activity, units of enzyme activity. Active site of enzymes

EC I II

Enzymes

Enzymes as catalysts. Theories of enzymes catalysis: proximity and orientation effects, acid base catalysis, covalent catalysis. Role of metals in enzyme catalysis
Monomeric enzymes, oligomeric enzymes & multienzyme complexes. Mechanism of action of chymotrypsin and pyruvate dehydrogenase.

EC I III

Enzymes

Factors affecting velocity of enzyme catalysed reactions: enzyme concentration, pH and temperature. Michaelis-Menten equation. Determination of K_m and its significance.
Enzyme inhibition: Various types of enzyme inhibitions. Determination of K_i value. Enzyme inhibitors and their importance. Introduction to multisubstrate enzymes. Allosteric enzymes and enzyme regulation.

EC I I

Enzymes

Concepts of bioenergetics, principles of thermodynamics & their application in Biochemistry, concept of free energy. Biological oxidations. Redox potential. ATP and High energy phosphate compounds: introduction, phosphate group transfer potential, enzymes and co-enzymes involved in oxidations and reductions. Mitochondrial electron transport chain and oxidative phosphorylation. Substrate level phosphorylation, mechanism of oxidative phosphorylation.

Books

1. J.R. Whitaker : Principles of Enzymology for the Food Sciences, 2nd Ed., Marcel Dekker, Inc., New York.
2. J.E. Bell and E.T. Bell : Protein and Enzymes, Prentice Hall Inc, New Jersey.
3. Berg J. M, Lubert Stryer : Bio-chemistry, W.F. Freeman and Co., New York, Edition 7th, 2002.
4. Nelson D.L & Cox M. M. : Principles of Bio-chemistry, Worth Publishers, Inc., New York, edition 4th 2005.
5. Conn E.E & Stumpf P.K. : Outlines of Bio-chemistry, Bruening & Doi John Wiley & Sons.
6. T. Palmer : Enzymes: Biochemistry, Biotechnology and Clinical chemistry, 2nd Ed. (2008) Affiliated East-West press Pvt. Ltd. New Delhi.

AC ICA

• r s'
n pr t o ours p r

- I. Preparation of casein from milk
- II. Determination of achromatic point of saliva
- III.
 - (a) Assay of serum alkaline phosphatase activity.
 - (b) Effect of pH on enzyme activity.
 - (c) Effect of temperature on enzyme activity and determination of energy of activation.
 - (d) Effect of substrate concentration on enzyme activity and determination of K_m .
- IV. Inhibition of alkaline phosphatase by EDTA.
- V. Demonstration of potato polyphenoloxidase activity.

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INFORMATION TECHNOLOGY
 First Semester

Note : The students with no background of Computer knowledge will opt for Module I while those familiar with the use of Computer system at the operating system level and application level, may opt either Module II or Module III.

Courses Duration or Semesters or Weeks or Months

| Sl. No. | Paper | Name of Paper | Theory | Exercises | | | Total Hours |
|------------------------|-------|--|--------|-----------|------|----|-------------|
| | | | | Ext. | Int. | | |
| First Semester | | | | | | | |
| 1 | A | Fundamentals of Information Technology | 6 | 25 | 5 | 30 | 3 |
| 2 | C | Practical on Paper – A | 6 | - | - | 20 | 3 |
| Second Semester | | | | | | | |
| 3 | B | Computer Programming Using C | 6 | 25 | 5 | 30 | 3 |
| 4 | D | Practical on Paper – B | 6 | - | - | 20 | 3 |

Exercises

Practical Fundamentals of Information Technology

Hrs

Theory : Ext. 25 + Int. 5 = 30

Practical : Ext. 20 = 20

Total 6 courses

The total marks for students to pass in Computer Information Technology in the first semester is 100 marks. The marks for the theory part are 30 marks and for the practical part are 20 marks.

- i. The Question Paper will consist of Four Units.
- ii. Examiner will set total of 10 questions comprising 7 questions from each Unit and 3 compulsory question of short answer type covering whole syllabi.
- iii. The students are required to attempt ONE question from each Unit and the Compulsory question.
- iv.

p r C ' r t on p r A

Total Periods (6 Periods/week): 60

Max Marks: 20

Exam Hours: 4

Note for the Paper setter:

Paper will be set at the time of examination. Due weightage may be given to practical note-book and assignments.

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

MICROBIOLOGY

B.Sc. (GENERAL) FIRST YEAR (SEMESTER SYSTEM) EXAMINATION (2019-20)

- Note : 1. A student who has passed the + 2 examination under 10+2+3 system of education of a recognized University/ Board/ Council or any other examination recognized by the State University as equivalent thereto shall be eligible to offer the subject of Microbiology at the University. (c. "eve") if he/she has passed the +2 examination with (Physics) Chemistry) Mathematics) Microbiology as his/her subjects.
2. Only such colleges which have a necessary infrastructure or equipment and staff shall admit students to the subject of Microbiology. The infrastructure must be approved by the University as per usual practice.

| Scheme of Examination | Duration | Marks |
|---|----------|-------|
| FIRST YEAR | | |
| Semester I | | |
| THEORY | 3 hrs | 30 |
| MIC 101! | 3 hrs | 30 |
| MIC 102! | 3 hrs | 30 |
| - PRACTICAL | 3 hrs | 30 |
| * The practical examination pertaining to the entire syllabus included in theory papers MIC 101 and MIC 102 | | |
| Semester II | | |
| THEORY | 3 hrs | 30 |
| MIC 201! | 3 hrs | 30 |
| MIC 202! | 3 hrs | 30 |
| - PRACTICAL | 3 hrs | 30 |
| * The practical examination pertaining to the entire syllabus included in theory papers MIC 201 and MIC 202 | | |

Note : 15 marks for the Internal Assessment.

MICROBIOLOGY
OUTLINES OF TESTS AND SYLLABUS
MICROBIOLOGY
B.Sc. (GENERAL) FIRST YEAR EXAMINATION
MIC 101 FUNDAMENTALS OF MICROBIOLOGY (I)

Semester-I

MAX. MARKS! 45.6 MARKS
THEORY! 44 MARKS
INTERNAL ASSESSMENT! 7.6 MARKS
TIME! 4 HRS.

Note : The question paper will consist of four sections (A, B, C, D) where (A) will have 10 questions, (B) will have 10 questions, (C) will have 10 questions and (D) will have 10 questions. Questions (A) will span the complete syllabus and will be compulsory. Rest of the eight questions will be from different sections of the syllabus. There will be four questions from each of the two sections and two is to be attempted from each section. Each question should be subdivided into 2-3 sub parts.

Objectives :

To provide basic knowledge about the fundamental concepts of microbiology including history of microbiology, microscopic examination of microbes and providing information in frontier areas of genetic engineering, environmental science and agriculture.

SECTION-A

1. History, development, scope and applications of microbiology.
2. Methods of microbiology (isolation of pure cultures) theory and practice of sterilization.
3. Nature of prokaryotes and eukaryotes. 8997c08 - 8(r)16. 978(a)3. 30131(c)-18. 307(8)

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MICROBIOLOGY
B.Sc. (GENERAL) FIRST YEAR EXAMINATION
MIC 102 ! MICROBIAL - YSIOLOGY / METABOLISM (I)
Semester-I

MAX. MAR3S! 45.6 MAR3S
T EORY! 44 MAR3S
INTERNAL ASSESSMENT! 7.6 MAR3S
TIME! 4 RS.

SECTION-C

- Microbiology - Metabolism >
1. Respiration and fermentation.
 2. Glycolysis.
 3. Pentose Phosphate pathway
 3. The Citric Acid Cycle pathway.
 - .. Tricarboxylic acid cycle.
 - .. Glyoxylate cycle.

SECTION-2

- Bacterial Genetics >
1. Mutation.
 2. Transformation.
 3. Transduction (generalized transduction) specialized transduction
 3. The Regulation of Gene Expression > Lac operon) tryptophan operon. Recommended

Recommended Books :

1. (Tanner 9.C.) Soudoroff (.) Adelberg) : A. /1000) Denera" Microbiology" ' c' i"an Press) London.
2. Se"czar" (E.) (un !han) : !.) Arieg) <.9. /10F, 2) ' Microbiology) +ata ' c Draw ; i" Su#"ication) <ew 5e"hi.
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MICROBIOLOGY
B.Sc. (GENERAL) FIRST YEAR EXAMINATION
Semester I

MAX. MARKS! 26 MARKS
- PRACTICAL! 22 MARKS
INTERNAL ASSESSMENT! 4 MARKS
TIME! 4 RS.

- PRACTICALS

1. Preparation of culture media) spread plates) pour plates) selective media) differential media.
2. Preparation of pure cultures and study the effect of selective nutrients on prokaryotes.
3. Staining of (oil bacteria) (oil fungi) (oil Actinomycetes).
3. (selective media for (oil microflora and use of growth factors) (study of rhizosphere interactions) Quantitative measurements of (oil nutrients and rhizosphere microflora and preparation of starter cultures of rhizobium) Azotobacter.

B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

MICROBIOLOGY
B.Sc. (GENERAL) FIRST YEAR EXAMINATION
MIC 201 ! F1N2AMENTALS OF MICROBIOLOGY (II)

Semester-II

MAX. MARKS! 45.6 MARKS
THEORY! 44 MARKS
INTERNAL ASSESSMENT! 7.6 MARKS
TIME! 4 RS.

Note : The question paper will consist of four sections (A, B, C & D) out of which (08) questions have to be attempted. Question 4 will span the complete syllabus and will be compulsory. Rest of the eight questions will be from different sections of the syllabus. There will be four questions from each of the two sections and two is to be attempted from each section. : Each question should be subdivided into 2/3 sub parts.

Objectives !

to provide basic knowledge about the fundamental concepts of ' microbiology including history of ' microbiology) ' microscopic examination of microbes and 336. 3074 (i) 34 744 (c) 1. 947 (x) 17. 401- 18n8.

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B.A./B.SC.(GENERAL) FIRST YEAR (SEMESTER SYSTEM) SYLLABUS

SECTION-C

8. **Indoor Environment**
Pollutants and contaminants of the in-house environment; problems of the environment linked to urban and rural lifestyles; possible adulterants of the food; uses and harms of plastics and polythene; hazardous chemicals, solvents and cosmetics.
9. **Global Environment Issues**
Global concern, creation of UNEP; Conventions on climate change, Convention on biodiversity; Stratospheric ozone depletion, dangers associated and possible solutions.
10. **Indian Laws on Environment**
Indian laws pertaining to Environmental protection

Part II - Short Questions

1. Concept and Significance of Road Safety.
2. Role of Traffic Police in Road Safety.
3. Traffic Engineering – Concept & Significance.
4. Traffic Rules & Traffic Signs.
5. How to obtain Driving License.
6. Traffic Offences, Penalties and Procedures.
7. Common Driving mistakes.
8. Significance of First-aid in Road Safety.
9. Role of Civil Society in Road Safety.
10. Traffic Police-Public Relationship.

Environment

- The Environment and Road Safety paper is 70 marks. For marking of an attached document

The paper shall have 10 units

