

TENTATIVE
SCHEME OF EXAMINATION

for

BACHELOR OF VOCATION
in
REFRIGERATION AND AIR CONDITIONING

Offered by

University School of Engineering and Technology

3rd SEMESTER to 6th SEMESTER



Guru Gobind Singh Indraprastha University
Dwarka, Delhi – 110078 [INDIA]
www.ipu.ac.in

**BACHELOR OF VOCATION
(REFRIGERATION AND AIR CONDITIONING)
THIRD SEMESTER EXAMINATION
(LEVEL-VI)**

Paper Code	Paper ID	Paper	L	T/P	Credits
THEORY PAPERS					
ETVRA-601		Heat Transfer	3	1	4
ETVRA-603		Refrigeration -II	3	1	4
ETVRA-605		Applied Electronics	3	1	4
ETVRA-607		Advance Thermodynamics	3	0	3
OPEN ELECTIVE-III (Select any one)					
ETVMS-601		Financial Accounting	3	0	3
ETVMS-603		Organizational Behavior	3	0	3
ETVMS-605		Operations Research	3	0	3
ETVMS-607		Industrial Management	3	0	3
ETVMS-609		Managerial Economics	3	0	3
PRACTICAL/VIVA VOCE					
ETVRA-651		Heat Transfer Lab	0	3	3
ETVRA-653		Refrigeration –II Lab	0	3	3
ETVRA-655		Applied Electronics Lab	0	3	3
ETVRA-657		Industrial Training-II	0	0	3
TOTAL			15	12	30

^Industrial Training-III:

The students are advised to undergo 2-weeks training in industry/ Skill Knowledge Provider (SKP)/ Sector Skill Council (SSC) during winter vacation and should submit training report for evaluation during the Fourth semester.

**BACHELOR OF VOCATION
(REFRIGERATION AND AIR CONDITIONING)
FOURTH SEMESTER EXAMINATION
(LEVEL-VI)**

Paper Code	Paper ID	Paper	L	T/P	Credits
THEORY PAPERS					
ETVRA-602		Fluid Mechanics & Hydraulics	3	1	4
ETVRA-604		Air conditioning -II	3	1	4
ETVRA-606		Work Shop Technology	3	1	4
CORE ELECTIVE-I (Select any one)					
ETVRA-608		Impact of Science & Technology on Society	3	1	4
ETVRA-610		Impact of RAC on Environment	3	1	4
OPEN ELECTIVE-IV (Select any one)					
ETVCS-602		Data Science	3	0	3
ETVHS-602		French	3	0	3
ETVHS-604		Spanish	3	0	3
ETVHS-606		Mandarin	3	0	3
ETVHS-608		German	3	0	3
ETVHS-610		Portuguese	3	0	3
ETVMS-602		Entrepreneurship Development and Planning	3	0	3
ETVMS-604		Business Informatics	3	0	3
PRACTICAL/VIVA VOCE (Select any one Lab based on Core Elective-I)					
ETVRA-658		Impact of Science & Technology on Society	0	3	3
ETVRA-660		Impact of RAC on Environment	0	3	3
PRACTICAL/VIVA VOCE					
ETVRA-652		Fluid Mechanics & Hydraulics Lab	0	3	3
ETVRA-654		Air conditioning –II Lab	0	3	3
ETVRA-656		Industrial Training-III^	0	0	2
ETVRA-662		Project-II (RAC)	0	3	3
TOTAL			15	16	33

^^Industrial Training-IV:

The students are advised to undergo 6-8 weeks training in industry/Skill Knowledge Provider (SKP)/ Sector Skill Council (SSC) during summer vacation and should submit training report for evaluation during the Fourth semester.

Note for Project:

The student will submit a synopsis at the beginning of the semester for approval from the departmental committee in a specified format, thereafter he/she will have to present the progress of the work through seminars and progress reports.

**BACHELOR OF VOCATION
(REFRIGERATION AND AIR CONDITIONING)
FIFTH SEMESTER EXAMINATION
(LEVEL-VII)**

Paper Code	Paper ID	Paper	L	T/P	Credits
THEORY PAPERS					
ETVHS-701		Technical English (Common to all disciplines)	3	0	3
ETVRA-701		Refrigeration System Design	3	1	4
CORE ELECTIVE-II (Select any one)					
ETVRA-703		Auto CAD	3	1	4
ETVRA-705		PRO E (Pro/ENGINEER)	3	1	4
ETVRA-707		Computer Aided Three-Dimensional Interactive Application (CATIA)	3	1	4
CORE ELECTIVE-III (Select any one)					
ETVRA-709		Measurement and Control	3	1	4
ETVRA-711		Instrumentation	3	1	4
ETVRA-713		Control Engineering	3	1	4
PRACTICAL/VIVA VOCE (Select any one Lab based on CORE ELECTIVE-II)					
ETVRA-753		Auto CAD	0	3	3
ETVRA-757		PRO E (Pro/ENGINEER)	0	3	3
ETVRA-759		Computer Aided Three-Dimensional Interactive Application (CATIA)	0	3	3
PRACTICAL/VIVA VOCE (Select any one Lab based on CORE ELECTIVE-III)					
ETVRA-761		Measurement and Control	0	3	3
ETVRA-763		Instrumentation	0	3	3
ETVRA-765		Control Engineering	0	3	3
GENERAL ELECTIVE-II (Select any one)					
ETVSS-751		NCC	2	1	3
ETVSS-753		NSS	2	1	3
ETVSS-755		Sports	2	1	3
ETVSS-757		Community Services	2	1	3
ETVSS-759		ECO Club	2	1	3
ETVSS-761		YOGA	2	1	3
PRACTICAL/VIVA VOCE					
ETVHS-751		Language Lab (Common to all disciplines)	0	3	3
ETVRA-751		Refrigeration System Design Lab	0	3	3
ETVRA-755		Minor Project (RAC)	0	3	3
ETVRA-767		Industrial Training-IV^^	0	0	3
TOTAL			14	19	36

#Industrial Training-V:

The students are advised to undergo 2 weeks training in industry/ Skill Knowledge Provider (SKP)/ Sector Skill Council (SSC) during winter vacation and should submit training report for evaluation during the Sixth semester.

**BACHELOR OF VOCATION
(REFRIGERATION AND AIR CONDITIONING)
SIXTH SEMESTER EXAMINATION
(LEVEL-VII)**

Paper Code	Paper ID	Paper	L	T/P	Credits
THEORY PAPERS					
ETVRA-702		Air Conditioning System Design	3	1	4
CORE ELECTIVE-IV (Select Any One)					
ETVRA-704		Energy Auditing	3	0	3
ETVRA-706		Energy Conservation	3	0	3
ETVRA-708		Renewable Energy Resources	3	0	3
CORE ELECTIVE-V (Select Any One)					
ETVRA-710		Optimization Technique	3	0	3
ETVRA-712		Simulation Techniques	3	0	3
PRACTICAL/VIVA VOCE					
ETVRA-752		Air Conditioning System Design Lab	0	3	3
ETVRA-754		MATLAB	0	3	3
ETVRA-756		Industrial Training-V#	0	0	3
ETVRA-758		Major Project*# (RAC)	0	12	12
TOTAL			09	19	31

*#The student will submit a synopsis at the beginning of the semester for approval from the departmental committee in a specified format, thereafter he/she will have to present the progress of the work through seminars and progress reports. Seminar related to major project should be delivered one month after starting of Semester. The progress will be monitored through seminars and progress reports. *The students may be allowed to do Industrial Major Project on-site during 5 days in a week and class work should be completed in 2 working days in the respective institution.*

For Award of Diploma:

1. The total number of the credits of the Diploma (RAC) Programme = 63.
2. Student shall be required to appear in examinations of all courses. However, to award the Diploma (RAC) a student shall be required to earn a minimum of 60 credits.

For Award of Advanced Diploma:

1. The total number of the credits of the Advanced Diploma (RAC) Programme = 126.
2. Student shall be required to appear in examinations of all courses. However, to award the Advanced Diploma (RAC) a student shall be required to earn a minimum of 120 credits.

For Award of B.Voc Degree:

1. The total number of the credits of the B.Voc. (RAC) Programme = 190.
2. Student shall be required to appear in examinations of all courses. However, to award the Degree B.Voc. (RAC) a student shall be required to earn a minimum of 180 credits.

FOR LATERAL ENTRY STUDENTS-For Award of Advanced Diploma:

1. The total number of the credits of the Diploma (RAC) Programme = 63
2. Each student shall be required to appear for examinations in all courses Third Semester onwards. However, for the award of the Degree B.Voc. (RAC) a student shall be required to earn a minimum of 60 credits.

FOR LATERAL ENTRY STUDENTS-For Award of B.Voc Degree:

1. The total number of the credits of the Advanced Diploma (RAC) Programme = 127
2. Each student shall be required to appear for examinations in all courses Third Semester onwards. However, for the award of the degree B.Voc. (RAC) a student shall be required to earn a minimum of 120 credits.

Tentative Scheme for Level VI and VII for B.Voc. (Refrigeration and Air Conditioning). The detailed Scheme and Syllabi for Level VI and VII shall be got approved during the Academic Year 2016-17 by the BOS of USET and Academic Council of GGSIPU.