



PUNJAB BOARD OF TECHNICAL EDUCATION

21-A, Kashmir Block Allama Iqbal Town, Lahore

www.pbte.edu.pk - Tel # 042-99260193, 99260194 (Ext. 139)

RD&QA Section Tel # 042-37800025

Ref. No. PBTE/RD&QA/2016/35

Dated:- 26-01-16


To

All Principals,
Government Colleges of Technology /
All Affiliated Polytechnic Institutes with P.B.T.E, Lahore.

Subject: Bifurcation / Division of the marks of the subjects (HVAC- 315) Air Conditioning System Design Revised DAE Mechanical Technology with Specialization in Heat Ventilation Air Conditioning & Refrigeration Technology.

The bifurcation / division of the following subject of Revised DAE Mechanical Technology with Specialization in Heat Ventilation Air Conditioning & Refrigeration Technology has been made and will be available at PBTE website i.e. www.pbte.edu.pk/modelpapers.html for the guidance of teachers and students for the DAE Examination 2017 and onward.

Sr. #	Subjects Name	Paper "A" (Topics) Marks = 100	Paper "B" (Topics) Marks = 100
	Air Conditioning System Design (HVAC- 315)	<ol style="list-style-type: none">1. Scope & use of process air conditioning system.2. Selection of design conditions3. Heat storage, diversity and stratification4. Cooling & heating load calculation for buildings5. Ventilation load6. Hydronic piping system.	<ol style="list-style-type: none">7. Air handling unit/terminal unit.8. Methods of duct designing.9. Solar heating and cooling system10. Air conditioning system.11. Air conditioning system of commercial buildings.12. Costing & estimation.13. Green buildings concept.


SECRETARY
C.T.I.

CC To:

- 1- PA to Chairperson, PBTE, Lahore.
- 2- PA to GM Academics, TEVTA, Lahore.
- 3- PA to GM Operations, TEVTA, Lahore.
- 4- PA to Secretary, PBTE, Lahore.
- 5- PA to Controller of Examinations, PBTE, Lahore.
- 6- The Principal concerned.
- 7- Deputy Controller of Examinations (Conduct), PBTE, Lahore.
- 8- Deputy Controller of Examinations (Secrecy), PBTE, Lahore.
- 9- In Charge Computer Section, PBTE, Lahore.
- 10- Assistant Controller of Examinations (Technical), PBTE, Lahore.
- 11- Assistant Controller of Examinations (Conduct), PBTE, Lahore.
- 12- Assistant Controller of Examinations (Secrecy), PBTE, Lahore.
- 13- Assistant Controller of Examinations (P&P-I & II), PBTE, Lahore.
- ✓14- Web Administrator, PBTE Lahore to Upload on Board Website.



PUNJAB BOARD OF TECHNICAL EDUCATION

21-A, Kashmir Block Allama Iqbal Town, Lahore

www.pbte.edu.pk - Tel # 042-99260193, 99260194 (Ext. 139)

RD&QA Section Tel # 042-37800025

Ref. No. PBTE/RD&QA/2016/36

Dated:- 26-01-16

To

All Principals,
Government Colleges of Technology /
All Affiliated Polytechnic Institutes with P.B.T.E, Lahore.

Subject: Bifurcation / Division of the marks of the subjects HVAC-334 Controls & Instrumentation Revised DAE Mechanical Technology with Specialization in Heat Ventilation Air Conditioning & Refrigeration Technology.

The bifurcation / division of the following subject of Revised DAE Mechanical Technology with Specialization in Heat Ventilation Air Conditioning & Refrigeration Technology has been made and will be available at PBTE website i.e. www.pbte.edu.pk/modelpapers.html for the guidance of teachers and students for the DAE Examination 2017 and onward.

Sr. #	Subjects Name	Paper "A" (Topics) Marks = 75	Paper "B" (Topics) Marks = 75
	Controls & Instrumentation (HVAC-334)	<ol style="list-style-type: none">1. Introduction of controls.2. Control systems.3. Temperature control & sensors.4. Humidity sensors.5. Pressure sensors.6. Liquid level and constant flow control.7. Flow control devices.8. Electrical control.	<ol style="list-style-type: none">9. Review of fundamentals of electronics controls applied to HVAC&R systems.10. Pneumatic controls.11. Self contained controls.12. Control applications.13. Electrical control circuits.14. Central computer controlled building HVAC&R management system.15. Preventive maintenance (pm) & scheduling.16. Instruments.


SECRETARY


CC To:

- 1- PA to Chairperson, PBTE, Lahore.
- 2- PA to GM Academics, TEVTA, Lahore.
- 3- PA to GM Operations, TEVTA, Lahore.
- 4- PA to Secretary, PBTE, Lahore.
- 5- PA to Controller of Examinations, PBTE, Lahore.
- 6- The Principal concerned.
- 7- Deputy Controller of Examinations (Conduct), PBTE, Lahore.
- 8- Deputy Controller of Examinations (Secrecy), PBTE, Lahore.
- 9- In Charge Computer Section, PBTE, Lahore.
- 10- Assistant Controller of Examinations (Technical), PBTE, Lahore.
- 11- Assistant Controller of Examinations (Conduct), PBTE, Lahore.
- 12- Assistant Controller of Examinations (Secrecy), PBTE, Lahore.
- 13- Assistant Controller of Examinations (P&P-I & II), PBTE, Lahore.
- 14- Web Administrator, PBTE Lahore to Upload on Board Website.



PUNJAB BOARD OF TECHNICAL EDUCATION

21-A, Kashmir Block Allama Iqbal Town, Lahore

www.pbte.edu.pk- Tel # 042-99260193, 99260194 (Ext. 139)

RD&QA Section Tel # 042-37800025

Ref. No. PBTE/RD&QA/2016/37

Dated:- 26-01-16

To

All Principals,
Government Colleges of Technology /
All Affiliated Polytechnic Institutes with P.B.T.E, Lahore.

Subject: Bifurcation / Division of the marks of the subjects (HVAC-214) Principle of Air Conditioning Revised DAE Mechanical Technology with Specialization in Heat Ventilation Air Conditioning & Refrigeration Technology.

The bifurcation / division of the following subject of Revised DAE Mechanical Technology with Specialization in Heat Ventilation Air Conditioning & Refrigeration Technology has been made and will be available at PBTE website i.e. www.pbte.edu.pk/modelpapers.html for the guidance of teachers and students for the DAE Examination 2016 and onward.

Sr. #	Subjects Name	Paper "A" (Topics) Marks = 75	Paper "B" (Topics) Marks = 75
	Principle of Air Conditioning (HVAC-214)	1. Introduction to air conditioning. 2. Review of heat energy 3. Psychometric properties of air 4. Air and human comfort 5. Energy conservation	6. Psychometric charts 7. Psychometric processes. 8. Calculation on psychometric process. 9. Calculation for the conditioned air supply.


SECRETARY


CC To:

- 1- PA to Chairperson, PBTE, Lahore.
- 2- PA to GM Academics, TEVTA, Lahore.
- 3- PA to GM Operations, TEVTA, Lahore.
- 4- PA to Secretary, PBTE, Lahore.
- 5- PA to Controller of Examinations, PBTE, Lahore.
- 6- The Principal concerned.
- 7- Deputy Controller of Examinations (Conduct), PBTE, Lahore.
- 8- Deputy Controller of Examinations (Secrecy), PBTE, Lahore.
- 9- In Charge Computer Section, PBTE, Lahore.
- 10- Assistant Controller of Examinations (Technical), PBTE, Lahore.
- 11- Assistant Controller of Examinations (Conduct), PBTE, Lahore.
- 12- Assistant Controller of Examinations (Secrecy), PBTE, Lahore.
- 13- Assistant Controller of Examinations (P&P-I & II), PBTE, Lahore.
- 14- Web Administrator, PBTE Lahore to Upload on Board Website.



PUNJAB BOARD OF TECHNICAL EDUCATION

21-A, Kashmir Block Allama Iqbal Town, Lahore
www.pbte.edu.pk- Tel # 042-99260193, 99260194 (Ext. 139)
RD&QA Section Tel # 042-37800025

Ref. No. PBTE/RD&QA/2016/38

Dated:- 26-01-16

To

All Principals,
Government Colleges of Technology /
All Affiliated Polytechnic Institutes with P.B.T.E, Lahore.

Subject: Bifurcation / Division of the marks of the subjects (HVAC-243) Advance Refrigeration Revised DAE Mechanical Technology with Specialization in Heat Ventilation Air Conditioning & Refrigeration Technology.

The bifurcation / division of the following subject of Revised DAE Mechanical Technology with Specialization in Heat Ventilation Air Conditioning & Refrigeration Technology has been made and will be available at PBTE website i.e. www.pbte.edu.pk/modelpapers.html for the guidance of teachers and students for the DAE Examination 2016 and onward.

Sr. #	Subjects Name	Paper "A" (Topics) Marks = 75	Paper "B" (Topics) Marks = 75
	ADVANCE REFRIGERATION (HVAC-243)	<ol style="list-style-type: none">1. Conventional vapor compression system2. Water chiller (air cooled/water cooled)3. Defrosting.4. Methods of obtaining ultra-low temperature5. Transport refrigeration and air conditioning.6. Commercial system application.	<ol style="list-style-type: none">7. Food preservation.8. Refrigerated storage.9. Freezing methods.10. Food products11. Factors determining the load.12. Cooling load calculations for cold storages13. Product load.14. Miscellaneous load.


SECRETARY
C.T.

CC To:

- 1- PA to Chairperson, PBTE, Lahore.
- 2- PA to GM Academics, TEVTA, Lahore.
- 3- PA to GM Operations, TEVTA, Lahore.
- 4- PA to Secretary, PBTE, Lahore.
- 5- PA to Controller of Examinations, PBTE, Lahore.
- 6- The Principal concerned.
- 7- Deputy Controller of Examinations (Conduct), PBTE, Lahore.
- 8- Deputy Controller of Examinations (Secrecy), PBTE, Lahore.
- 9- In Charge Computer Section, PBTE, Lahore.
- 10- Assistant Controller of Examinations (Technical), PBTE, Lahore.
- 11- Assistant Controller of Examinations (Conduct), PBTE, Lahore.
- 12- Assistant Controller of Examinations (Secrecy), PBTE, Lahore.
- 13- Assistant Controller of Examinations (P&P-I & II), PBTE, Lahore.
- 14- Web Administrator, PBTE Lahore to Upload on Board Website.



PUNJAB BOARD OF TECHNICAL EDUCATION

21-A, Kashmir Block Allama Iqbal Town, Lahore

www.pbte.edu.pk - Tel # 042-99260193, 99260194 (Ext. 139)

RD&QA Section Tel # 042-37800025

Ref. No. PBTE/RD&QA/2016/39

Dated:- 26-01-16

To

All Principals,
Government Colleges of Technology /
All Affiliated Polytechnic Institutes with P.B.T.E, Lahore.

Subject: Bifurcation / Division of the marks of the subjects HVAC-353 Heat Transfer & Refrigeration Calculations Revised DAE Mechanical Technology with Specialization in Heat Ventilation Air Conditioning & Refrigeration Technology.

The bifurcation / division of the following subject of Revised DAE Mechanical Technology with Specialization in Heat Ventilation Air Conditioning & Refrigeration Technology has been made and will be available at PBTE website i.e. www.pbte.edu.pk/modelpapers.html for the guidance of teachers and students for the DAE Examination 2017 and onward.

Sr. #	Subjects Name	Paper "A" (Topics) Marks = 75	Paper "B" (Topics) Marks = 75
	Heat Transfer & Refrigeration Calculations (HVAC-353)	<ol style="list-style-type: none">1. Methods of heat transfer.2. Determination of over all co-efficient of heat transfer.3. Properties of insulators and conductors.4. Simple saturated cycle. (from sub topic 4.1 to 4.3.4)	<ol style="list-style-type: none">5. Simple saturated cycle. (from sub topic 4.4 to 4.8)6. Actual refrigeration cycle.7. Performance/ efficiency of refrigeration cycle.8. Sizing and selection of refrigerant lines & accessories.9. Sorbents, desiccants & fuels.

CC To:

- 1- PA to Chairperson, PBTE, Lahore.
- 2- PA to GM Academics, TEVTA, Lahore.
- 3- PA to GM Operations, TEVTA, Lahore.
- 4- PA to Secretary, PBTE, Lahore.
- 5- PA to Controller of Examinations, PBTE, Lahore.
- 6- The Principal concerned.
- 7- Deputy Controller of Examinations (Conduct), PBTE, Lahore.
- 8- Deputy Controller of Examinations (Secrecy), PBTE, Lahore.
- 9- In Charge Computer Section, PBTE, Lahore.
- 10- Assistant Controller of Examinations (Technical), PBTE, Lahore.
- 11- Assistant Controller of Examinations (Conduct), PBTE, Lahore.
- 12- Assistant Controller of Examinations (Secrecy), PBTE, Lahore.
- 13- Assistant Controller of Examinations (P&P-I & II), PBTE, Lahore.
- 14- Web Administrator, PBTE Lahore to Upload on Board Website.


SECRETARY
C.T.