



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. |


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C.T.I.

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- 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.
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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. |


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

Dated:- 26-01-16

To

All Principals,
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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. |


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Dated:- 26-01-16

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All Principals,
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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. |


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

Dated:- 26-01-16

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All Principals,
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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.

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| 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. |

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