Code No: RT32025 **R13** SET - 1

III B. Tech II Semester Regular Examinations, April - 2016

MANAGEMENT SCIENCE

(Common to **EEE and CHEM**)

Time: 3 hours Maximum Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1	a)	"The nature of management is varied and diverse." Mention any four features of management?	[3M]
	b)	"A poor layout has serious consequences". Explain any four.	[4M]
	c)	"Manpower planning is concerned with the flow of people into and sometimes out of the organization." What are the goals of manpower planning?	[4M]
	d)	What are the rules that are to be carefully observed while drawing a Network?	[3M]
	e)	"Corporate planning has a company-wide and comprehensive perspective." What are the steps involved in the corporate planning process?	[4M]
	f)	"The purpose of benchmarking is to identify and adopt best practices that can lead to superior performance."Explain?	[4M]

PART -B

2	a)	Write about the various functions of management.	[4M]
	b)	What were the highlights of Henry Fayol's contribution to management?	[8M]
	c)	Mention the steps involved in the Decision making process.	[4M]
3	a)	Mention the benefits of Statistical Quality Control?	[4M]
	b)	"Inspection is done for a wide variety of purposes." Why is inspection necessary? What are the various methods of inspection?	[7M]
	c)	What are the objectives of Inventory control?	[5M]
4	a)	Discuss in detail about the various functions of HR manager.	[8M]
	b)	What are the factors affecting the choice of Channel of distribution?	[8M]
5	a)	Mention various strategies to minimize and bridge the gaps in Project management.	[8M]
	b)	Write about the differences between PERT and CPM.	[8M]
6	a)	"The corporate plans provide a rational approach to achieve corporate goals." What are the various element of Corporate planning process?	[8M]
	b)	Explain in detail about International Environment analysis.	[8M]
7	a)	Mention about the key methodologies of Six sigma.	[8M]
	b)	What are the prerequisites for successful implementation of Total Quality Management?	[8M]

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Code No: RT32025 **R13** SET - 2

III B. Tech II Semester Regular Examinations, April - 2016

MANAGEMENT SCIENCE

(Common to **EEE and CHEM**)

Time: 3 hours Maximum Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1	a)	"Organization involves creating structure of relationships among people working for the desired results." Explain the significance of organization.	[3M]
	b)	What are the benefits of Work study?	[4M]
	c)	Mention the advantages of Job Evaluation.	[4M]
	d)	Mention the differences between PERT and CPM.	[3M]
	e)	Write short notes on Vision and Mission.	[4M]
	f)	"BPOs, or the units to which work is being outsourced, are highly flexible, quicker, cheaper and very efficient."Explain.	[4M]

PART -B

2	a)	"Scientific management proved to be very beneficial to the industry at large." Explain.	[4M]
	b)	Briefly write about the cardinal principles of a sound Organization.	[8M]
	c)	Evaluate Matrix organization in terms of the merits and demerits.	[4M]
3	a)	Write briefly about batch production.	[4M]
	b)	"Method study refers to the systematic recording and critical examination of existing and proposed ways of doing work." Write about the basic procedure used in the process of method study.	[7M]
	c)	Explain about the various types of ABC analysis in brief.	[5M]
4	a)	Differentiate personnel and industrial relations from Human Resource Management.	[8M]
	b)	"The Job description emphasizes the job requirements." Mention the contents and advantages of Job description.	[8M]
5	a)	Write briefly about Network Analysis? Mention the rules that should be carefully observed while drawing a Network.	[8M]
	b)	What is critical path? What are the steps involved in identifying critical path?	[8M]
6	a)	"Strategy formulation and implementation is the crux of the strategic management process." What are the various stages involved in the process of Strategy formulation and implementation?	[8M]
	b)	What are the factors that are to be diagnosed in the External environment for the purpose of Strategy formulation?	[8M]
7	a)	"The purpose of Benchmarking is to identify and adopt best known practices that can lead to superior performance." Explain.	[8M]
	b)	"Business Process Reengineering has shown huge returns to several companies where it has been well implemented." Explain in detail about BPR.	[8M]

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Code No: RT32025 **R13** SET - 3

III B. Tech II Semester Regular Examinations, April - 2016

MANAGEMENT SCIENCE

(Common to **EEE and CHEM**)

Time: 3 hours Maximum Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1	a)	Write short notes on Planning and Controlling.	[3M]
	b)	Mention about the advantages and disadvantages of Fixed layout.	[4M]
	c)	What is the importance of Human Resource Management?	[4M]
	d)	"Network analysis refers to a number of techniques for the planning and control of complex projects." What are the main advantages of using Network?	[3M]
	e)	Explain about the significance of SWOT analysis.	[4M]
	f)	What are the main objectives of Material Requirement Planning?	[4M]

PART -B

2	a)	What are the functions, the manager has to perform while directing the members of his group?	[4M]
	b)	"Decision making is a rational process comprising certain defined steps." Explain.	[8M]
	c)	Briefly write about Frederick Herzberg's two-factor theory of motivation.	[4M]
3	a)	Mention the objectives of work measurement.	[4M]
	b)	"Inventory control is defined as the scientific method of providing the right type of material at the right time in the right quantities and at the right price to sustain the given production schedules." Briefly mention about various Inventory control techniques.	[7M]
	c)	Briefly write about Economic Order Quantity.	[5M]
4	a)	Briefly write about the types of Channels of distribution with suitable examples.	[8M]
	b)	What are stages of product life cycle? What are the marketing strategies, based on product life cycle?	[8M]
5	a)	Differentiate between PERT and CPM?	[8M]
	b)	Briefly write about the costs that are associated with any project?	[8M]
6	a)	"A Mission statement defines why the organization exists." What are the characteristics of a Mission statement?	[8M]
	b)	"Environmental scanning aims at identifying the new opportunities in which the firm can perform profitably. Explain.	[8M]
7	a)	"Supply chain management encompasses the planning and management of all activities involved in sourcing, procurement, conversion, and logistics management activities." Explain.	[8M]
	b)	"Enterprise Resource Planning systems (ERPs) integrate all data and process of an organization into a unified system." Explain.	[8M]

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Code No: RT32025 **R13** SET - 4

III B. Tech II Semester Regular Examinations, April - 2016

MANAGEMENT SCIENCE

(Common to **EEE and CHEM**)

Time: 3 hours Maximum Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1	a)	"Douglas Mc Gregor presented two sets of assumptions managers make about the nature of their employees." Explain?	[3M]
	b)	What are the main objectives of Inventory control?	[4M]
	c)	"Management By Objectives method considers the actual performance as the basis for evaluation." Explain?	[4M]
	d)	Write short notes on Optimistic time estimate and Pessimistic time estimate?	[3M]
	e)	Write short notes on Generic strategy alternatives?	[4M]
	f)	What are the major benefits of Just In Time system of production?	[4M]

PART -B

2	a)	What were the arguments against Scientific management?	[4M]
	b)	"The process of management encompasses certain functions to be performed in a logical sequence." Explain?	[8M]
	c)	Write about the various organization structures in brief.	[4M]
3	a)	Mention the features of Mass production?	[4M]
	b)	"There are various inventory control techniques employed to enhance the productivity levels in an industry environment." Explain?	[7M]
	c)	Why is Acceptance sampling preferred?	[5M]
4	a)	"Merit rating is the process of evaluating the relative merit of the person on a given job." Mention any four methods of Merit rating?	[8M]
	b)	What is meant by Marketing management? What are the various functions of marketing?	[8M]
5	a)	Differentiate between PERT and CPM?	[8M]
	b)	What is the need for float in CPM network? Briefly write about Optimistic time estimate, Pessimistic time estimate and Most likely time estimate?	[8M]
6	a)	Briefly explain about SWOT analysis with suitable examples?	[8M]
	b)	Write about the steps in strategy formulation with appropriate examples.	[8M]
7	a)	"Value chain analysis is a chain of activities through which a product/service passes in order to gain value in every activity." Explain?	[8M]
	b)	What do you mean by Capability Maturity Model (CMM)? Briefly mention about various levels of CMM?	[8M]

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Code No: RT32035 **R13** SET - 1

III B. Tech II Semester Regular Examinations, April - 2016
HEAT TRANSFER
(Mechanical Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**
(Heat transfer data book allowed)

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PART –A

1 a) How does heat transfer differ from thermodynamics? Is it true to say that heat transfer is essentially thermodynamics with rate equations added? [4M]

b) What is lumped system analysis? When is it applicable? [4M]

c) Mention some of the areas where free and forced convection mechanisms are predominant. [3M]

d) How is the friction factor for flow in a tube related to pressure drop? [3M]

e) Distinguish between mechanisms of filmwise condensation and dropwise condensation. [4M]

f) How does an enclouser with a small hole in it behave as a black body? [4M]

PART -B

2 A steel pipe (k=72W/m ^{0}C) of 34 mm outer diameter and 2mm radial thickness carries dry saturated steam at 120^{0}C.The pipe has been provided with asbestos insulation (k=0.3 W/m ^{0}C) to Check and minimize the rate of steam condensation. The pipe is located in surroundings at 25^{0}C.Taking unit length of pipe, Calculate [16M]
a) Thickness of asbestos insulation for which the rate of steam condensation is same as that when the pipe is uninsulated.
b) Mass flow rate of condensation when the above insulation is provided, and
c) Highest rate of condensation and corresponding insulation thickness,
Take surface conductance's on air-side and steam-side as 13 W/m^2 ^{0}C and 500 W/m^2 ^{0}C respectively and h_{fg} at 120^{0}C =2300kJ/kg.

3 a) Explain how the triangular fin is of the best shape. [6M]

b) Both ends of a 5mm diameter U-shaped copper (k= 300 W/m ^{0}C) rod are rigidly fixed to a vertical wall which is at 120^0 C temperature. The length of U-shaped rod is 50 cm and it is exposed to air at 30^{0}C.The combined radiative and convective heat transfer coefficient for the rod is 25 W/m^2 ^{0}C.Make calculations for the temperature at the centre of U-shaped rod and the heat transfer. [10M]

4 Under steady state conditions, the rate of conduction heat transfer through a plane wall is known to depend upon the length of the heat flow passage, its cross-sectional area, temperature difference across the faces and thermal conductivity of the wall material. Through dimensional analysis, establish an expression for the heat flow rate in terms of other variables. [16M]

5 A steam pipe 6 cm in diameter is covered with 2 cm thick layer of insulation which has a surface emissivity of 0.92.The insulation surface temperature is 75^0C and the pipe is placed in atmospheric air at 25^0C.Considering heat loss both by radiation and natural convection, estimate the heat loss from 5 m length of the pipe. Also calculate the overall heat transfer coefficient and the heat transfer coefficient due to radiation alone. [16M]

6 a) What do you understand by nucleation in nucleate boiling? Explain subsequent growth and motion of bubbles. [8M]

b) Dry saturated steam at atmospheric pressure condenses on the surface of a horizontal tube of 35 mm diameter. What should be the surface temperature of the tube if the rate of heat flow is required to be $6x10^4$ W/ m^2? Also, determine the heat transfer coefficient under these conditions. [8M]

7 a) Show that the hemispherical black cavity with a flat cover over it emits 50% of radiation to the surface itself and is absorbed. [8M]

b) A dead black cylinder of emissivity 0.95 is kept at 95^0C in a large enclosure at 10^0C. Find the radiation heat loss per square meter of its surface. What would be radiation loss become if the cylinder were surrounded by a concentric cylinder with its inner surface of a brightly polished metal of emissivity 0.10? Take radiation constant $\sigma_b=5.67x10^{-8}$ W/m^2 K^4. [8M]

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Code No: RT32035 **R13** SET - 2

III B. Tech II Semester Regular Examinations, April - 2016
HEAT TRANSFER
(Mechanical Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**
(Heat transfer data book allowed)
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PART –A

1	a)	Cite few examples where conduction plays a major role.	[4M]
	b)	How does transient heat conduction differ from steady conduction?	[4M]
	c)	Explain the significance of non-dimensional numbers.	[3M]
	d)	What is critical Reynolds number for flow over a flat plate? On what does it depend?	[4M]
	e)	In the design of condensers, which of the two types of condensation is usually selected? Why?	[4M]
	f)	What is a solid angle? What is its unit? What is a steragon?	[3M]

PART -B

2	a)	Derive an expression for heat flow through a composite cylinder taking into account the film heat transfer coefficients on the inside and outside surface of the cylinder. Find the log mean area of the cylinder neglecting film heat transfer coefficients.	[10M]
	b)	A 15cmx18 cm epoxy glass laminate (k=0.26 W/mK) of 0.14mm thickness has 1 mm diameter cylindrical copper fillings (k=386 W/mK) planted throughout the board with centre-to-centre distance of 3mm.Determine the thermal resistance of the epoxy board for heat conduction.	[6M]
3	a)	The fin is exposed to air at 25^0C with a convective coefficient of 22W/m^2 ^{0}C.If thermal conductivity o the fin material is 200 W/m^0C, determine the heat dissipation. Consider 1m width of fin.	[16M]
	b)	To increase the heat dissipation, the following two alternatives have been suggested with the same material volume. (i) Split the fin into two fins of 5mm thickness each (ii) Single fin 5mm thick and 160 mm long Which will be the better choice? The fins may be considered short with tip insulated.	
4	a)	Explain the Buckingham's π- theorem for dimensional analysis? What are repeating variables and how are they selected for dimensional analysis?	[10M]
	b)	Explain the concept of momentum equation? Explain its significance.	[6M]

5 Atmospheric air at 25^0C flows at 50 m/s velocity past a flat plate 0.6 m long with its surface maintained at 295^0C.Under these conditions, the air may be treated as incompressible. Make calculations for heat transferred to air from the entire plate length taking into account both laminar and turbulent portions of boundary layer. Presume unit width of plate and the critical Reynolds number to be $5x10^5$.What percentage error would be introduced if the boundary layer is presumed to be of turbulent nature from the very leading edge of plate. [16M]

6 a) Explain Pool boiling. How does it differ from forced convection boiling? [8M]

b) Dry saturated steam at 120^0C saturation temperature condenses on a vertical plate, 100 mm in height and 50 mm in width having a uniform surface temperature of 100^0C.Estimate the average condensing film coefficient, heat transfer rate to the plate and the steam condensation rate. [8M]

7 a) By using one radiation shield between two surfaces and if all the three surfaces have the same emissivity, show that the net radiant heat transfer is reduced by 50%. [8M]

b) Explain the radiant energy exchange between two small gray surfaces. Show that $F_{12} = \varepsilon_1\varepsilon_2$. [8M]

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Code No: RT32035 **R13** SET - 3

III B. Tech II Semester Regular Examinations, April - 2016
HEAT TRANSFER
(Mechanical Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**
(Heat transfer data book allowed)
*****

PART –A

1	a)	Define thermal conductivity. What is the difference between thermal conductivity and thermal conductance?	[3M]
	b)	List the assumptions made while analyzing the heat flow from a finned surface.	[4M]
	c)	What is meant by dimensional homogeneity? Explain some of its applications.	[4M]
	d)	What do you mean by local and convective differentials?	[3M]
	e)	Discuss the importance of heat exchangers for industrial use.	[4M]
	f)	What is a black body? Give some examples of some surfaces which do not appear black, but have high values of absorptivities.	[4M]

PART -B

2		A furnace wall comprises two layers: 8 cm of fire clay (k=1.2 W/mK) next to the fire box and 0.6 cm of mild steel (k=35W/mK) on the outside. The inside surface of brick is at 900K and the steel is surrounded by air at 300K with an outside surface coefficient of $5W/m^2K$.Estimate the heat flux through square meter of furnace wall and the outside surface temperature of steel. What would be the percentage increase in heat flux if in addition to the conditions specified eighteen steel bolts of 1.8 cm diameter pass through the composite wall per square meter of wall area.	[16M]
3	a)	Consider a sphere and a cylinder of equal volume made of copper. Both the sphere and the cylinder are initially at the same temperature, and are exposed to convection in the same environment. Which do you think will cool faster, the cylinder or the sphere? Why?	[8M]
	b)	A short cylindrical aluminum bar of diameter 6 cm and height 3 cm is initially at a uniform temperature of 175^0C.Suddenly the surfaces are subjected to convective cooling with a h=250 W/m^2K into an ambient at 25^0C. Calculate the centre temperature of the cylinder 1 min after the start of cooling.	[8M]
4		Show by dimensional analysis that data for forced convection may be correlated by an equation of the form Nu= φ(Re,Pr) Where Nusselt number Nu=(hl/k),Reynolds number Re (Vlρ/μ) and prandtl number pr=(μC_p/k).	[16M]

5 a) Air at 20^0C flowing at 25 m/s passes over a flat plate, the surface of which is maintained at 270^0C.Calculate the rate at which heat is transferred from both sides of the plate per unit width over a distance of 0.25 m from the leading edge. Properties of air at 145^0C are Pr=0.687,ν =$2.8x10^{-5}$ m^2/s and k=$3.49x10^{-5}$kW/m K. [10M]

b) Explain the effect of prandtl number on the temperature gradient in turbulent flow for a given Reynolds's number in tubes. [6M]

6 a) Give a comparison of parallel-flow and counter flow heat exchangers. Why are counter flow heat exchangers mostly used? [6M]

b) Water is evaporated continuously at 100^0C in an evaporator by cooling 500 kg of air per hour from 260^0C to 150^0C.Calculate the heat transfer surface area required and the steam evaporation per hour, if the liquid enters at 100^0C.Take U_0=46W/m^2K and C_p of air 1.005kJ/kg k. At 100^0c, h_{fg}=2257kJ/kg. [10M]

7 a) Explain how the shape factors are different surfaces evaluated. [6M]

b) The inner sphere of a Dewar flask is of 300 mm diameter and outer sphere is of 360 mm diameter. Both spheres are plated for which ε=0.5.The space between them is evacuated. Determine the rate at which liquid oxygen would evaporate at -183^0C when the outer sphere temperature is 20^0C.The latent heat of vaporization of liquid oxygen is 14.2 kJ/kg. [10M]

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Code No: RT32035 **R13** SET - 4

III B. Tech II Semester Regular Examinations, April - 2016
HEAT TRANSFER
(Mechanical Engineering)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**
(Heat transfer data book allowed)
*****

PART –A

1	a)	Why are metals good thermal conductors, While non-metals are poor conductors of heat?	[3M]
	b)	What is the utility of extended surfaces?	[4M]
	c)	The expression $\frac{hl}{k}$ gives the Biot number as well as the Nusselt number. What is the difference between the two?	[4M]
	d)	When is the forced convection heat transfer in two systems physically similar?	[3M]
	e)	What is mean by fouling factor? How does it affect the performance of a heat exchanger?	[4M]
	f)	Explain how thermal radiation exhibits wave particle duality.	[4M]

PART -B

2	a)	Derive a three dimensional general heat conduction equation in spherical co-ordinates for a homogeneous material. Deduce there from an expression for unidirectional unsteady state system when heat is generated within it at the rate of q_g per m^3 of the material.	[10M]
	b)	A cubical tank of water of volume $1.5m^3$ is kept at a steady temperature of 65^0C by a 1kW heater. The heater is switched off. How long does the tank to cool to 50^0C if the room temperature is 15^0C .	[6M]
3		A orange of diameter 10 cm is initially at a uniform temperature of 30^0C.It is placed in a refrigerator in which the air temperature is 2^0C.If the heat transfer coefficient between the air and the orange surface is 50 W/m^2K,determine the time required for the centre of the orange to reach 10^0C.Assume the thermal properties of the orange to reach 10^0C.Assume the thermal properties of the orange are the same as those of water at the same temperature (α =1.4 x $10^{-7}$$m^2$/s and k= 0.59 W/mK).	[3M]
	b)	What is lumped system analysis? When is it applicable?	[6M]
4	a)	Show that the resistance R to the motion of a sphere of diameter D moving with uniform velocity V through a real fluid of density ρ and viscosity μ is given by $R=\rho D^2V^2f$ **($\mu/\rho VD$)** where f stands for a function of	[8M]
	b)	Explain the Rayleigh's method for dimensional analysis.	[8M]

5 a) Calculate the heat generated in a body of a man if for comfortable living, the body is to be at 35^0C whilst the environmental conditions are at 15^0C.The body of the man may be idealized as a cylinder of 30cm diameter and 160 cm height. Use the correlation $Nu=0.12(Gr\ Pr)^{(1/3)}$. [10M]

b) How does the friction factor for turbulent flow through a tube depend on the Reynolds number? [6M]

6 Hot oil is to be cooled by water in a one shell pass and eight tube passes heat exchanger. The tubes are thin-walled and made of copper with an internal diameter of 14 mm. The length of each tube pass is 5 m and U_0 =310 W/m^2 K. Water flows through the tubes at a rate of 0.2 kg/s and oil through the shell at a rate of 0.3 kg/s. The water and the oil enter at temperatures of 20^0C and 150^0C respectively. Determine the rate of heat transfer and the exit temperatures of the water and the oil. [16M]

7 a) Show that the emissive power of a black body is π-times the intensity of emitted radiation. [8M]

b) Determine the heat lost by radiation per meter length of a 75 mm oxidized steel pipe at 327^0 C if [8M]

(i) located in a large room with red brick walls at a temperature of 27^0C

(ii) Enclosed in a 150mm x150mm red brick walls at a temperature of 27^0C. Emissivites of oxidized steel and red brick are 0.79 and 0.93 respectively.

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Code No: RT32055 **R13** SET - 1

III B. Tech II Semester Regular Examinations, April - 2016
WEB TECHNOLOGIES
(Common to CSE and IT)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

*****

PART –A

1	a)	Write the characteristics of DHTML.	[3M]
	b)	Why XML uses both streaming and tree-based parsing?	[4M]
	c)	What are the protocols used by AJAX?	[4M]
	d)	Differentiate between the 'BITWISE AND' operator and the 'LOGICAL AND' operator in PHP.	[4M]
	e)	How the interpreter is used in Perl?	[3M]
	f)	How to create getter and setter methods in Ruby?	[4M]

PART -B

2	a)	'Javascript is referred to as Object based programming language'. Justify with an example.	[4M]
	b)	Explain how basic and nested tables are created using HTML.	[8M]
	c)	Why doPut() method is preferred over doGet() method?	[4M]
3	a)	Explain the various types of XML schema data types used.	[4M]
	b)	Show how SAX is an alternative method for parsing XML documents. Write its advantages.	[8M]
	c)	Explain the four possible keywords in a DTD declaration with suitable examples.	[4M]
4	a)	Explain the UDDI web service in AJAX.	[8M]
	b)	Discuss how the XMLHttpRequest can be cancelled in AJAX.	[8M]
5	a)	Explain with an example program how to connect to a SQL Server database from a PHP script.	[8M]
	b)	Write a PHP code to validate the form consisting of a username, password and email fields.	[8M]
6	a)	Discuss the features of Perl programming.	[8M]
	b)	How to call and identify a subroutine in Perl? Explain with example.	[8M]
7	a)	Explain the creation of iterators in Ruby with examples.	[8M]
	b)	Discuss the multi dimensional arrays in Ruby programming.	[8M]

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Code No: RT32055 **R13** SET - 2

III B. Tech II Semester Regular Examinations April - 2016
WEB TECHNOLOGIES
(Common to CSE and IT)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

*****

PART –A

1	a)	What are the different types of lists in HTML?	[4M]
	b)	What is PCDATA in XML?	[4M]
	c)	Write the limitations of AJAX.	[4M]
	d)	How to define a variable accessible in functions of a PHP script?	[3M]
	e)	Write the features of CGI.	[3M]
	f)	Differentiate between a **has_one** and **belongs_to** association in Ruby?	[4M]

PART -B

2	a)	Write a script that asks the user to enter two numbers, obtains the two numbers from the user and outputs text that displays the sum, product, difference and quotient of the two numbers.	[4M]
	b)	Explain the classification of HTML tags with examples.	[8M]
	c)	Describe the scoping rules for the Java script.	[4M]
3	a)	Create a DTD to display daily schedule of user.	[3M]
	b)	Write XML Schema for library information system.	[8M]
	c)	Discuss the various terms related to Document Type Definition.	[5M]
4	a)	Discuss the security issues of AJAX.	[8M]
	b)	Explain the SOAP web service in AJAX.	[8M]
5	a)	How the result set of Mysql be handled in PHP?	[8M]
	b)	Write a PHP script to sort the elements of an array.	[8M]
6	a)	What types of primary data structures are supported in Perl? Discuss.	[8M]
	b)	How to search for a page using Perl language elements?	[8M]
7	a)	Define class. Explain how to create a class and its objects in Ruby.	[8M]
	b)	With an example program explain Pattern Matching in Ruby.	[8M]

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Code No: RT32055 **R13** SET - 3

III B. Tech II Semester Regular Examinations, April - 2016
WEB TECHNOLOGIES
(Common to CSE and IT)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

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PART –A

1	a)	What are the benefits of using styles compared with placing formatting directly into the text of the Web page?	[4M]
	b)	Write the applications of XML.	[3M]
	c)	What is Script Manager in AJAX?	[5M]
	d)	Differentiate between **for** and **foreach** statements in PHP.	[4M]
	e)	What are the arguments that are used frequently in Perl?	[3M]
	f)	How does a symbol differ from a string in Ruby language?	[3M]

PART -B

2	a)	Create a HTML which uses CSS that gives all H1 and H2 elements a padding of 0.5 ems; a grooved border style and a margin of 0.5 ems.	[4M]
	b)	What is Document object model? Discuss the various DOM methods used with javascript.	[8M]
	c)	Write a script that reads an integer and determines whether it is PRIME Number or Not.	[4M]
3	a)	Give a brief note on DOM parser.	[3M]
	b)	Design an XML schema for hospital information management.	[8M]
	c)	Explain how a DTD is created with an example.	[5M]
4	a)	Is AJAX code cross browser compatible? Explain.	[8M]
	b)	Discuss the role of WSDL web service in AJAX.	[8M]
5	a)	Explain the user defined functions in PHP with an example.	[8M]
	b)	Write a PHP Code to determine whether a given number is an 'PERFECT NUMBER' or not. [Eg: 6 is a perfect number, since its factors including 1(but not the number itself) sum to the number i.e., 1+2+3 = 6]	[8M]
6	a)	List and explain the operators used in Perl.	[8M]
	b)	Write a Perl script to create a form to mail.	[8M]
7	a)	Discuss about simple I/O statements in Ruby.	[8M]
	b)	Explain Hashes and Methods in Ruby with examples.	[8M]

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Code No: RT32055 **R13** SET - 4

III B. Tech II Semester Regular Examinations, April - 2016
WEB TECHNOLOGIES
(Common to CSE and IT)

Time: 3 hours Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B)**
2. Answering the question in **Part-A** is compulsory
3. Answer any **THREE** Questions from **Part-B**

*****

PART –A

1	a)	Describe the primitive data types that Java script uses.	[3M]
	b)	What is Document Type Definition (DTD)?	[4M]
	c)	Differentiate between proxied and proxyless calls in AJAX.	[4M]
	d)	How to pass a variable by reference in PHP?	[4M]
	e)	Mention the ways to express a string in Perl.	[4M]
	f)	List the data types supported in Ruby language.	[3M]

PART -B

2	a)	Create a HTML form with five basic features.	[3M]
	b)	Write about the various Objects used in Java script.	[8M]
	c)	Define frame. Create a HTML page that displays multiple frames in a window.	[5M]
3	a)	Write about SAX Parser.	[3M]
	b)	Explain how XML is useful in defining data for web applications.	[8M]
	c)	Write the advantages of XML schemas over DTDs.	[5M]
4	a)	Is Ajax said to be a technology platform or is it an architectural style? Explain	[8M]
	b)	Describe the Integration of PHP and AJAX with an example.	[8M]
5	a)	Discuss the casting of data types in PHP.	[8M]
	b)	Write a PHP script to retrieve the data from oracle database.	[8M]
6	a)	What are prefix dereferencers in Perl? Explain with examples.	[10M]
	b)	Differentiate between Grooving & Shortening of arrays and Splicing of arrays.	[6M]
7	a)	How would you declare and use a constructor in Ruby?	[8M]
	b)	Explain the looping structures available in Ruby.	[8M]

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Code No: R32025 **R10** **Set No. 1**

III B.Tech II Semester Supplementary Examinations, April - 2016

POWER SEMICONDUCTOR DRIVES

(Electrical and Electronics Engineering)

Time : 3 hours **Max. Marks: 75**

Answer any Five Questions

All Questions carry equal marks

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1 Explain speed control of induction motor by [15]
a) stator voltage Control
b) stator frequency Control
c) rotor resistance Control
d) rotor e.m.f. injection Control.

2 A 220V, 1500 rpm, 10A Separately excited dc motor has an armature resistance of 1ohm. It is fed from a single phase fully controlled converter with an ac source voltage of 230V, 50Hz assuming continuous load current compute [15]
a) motor speed at the firing angle of 30° and torque of 5Nm
b) Developed torque at the firing angle of 45° and speed of 1000rpm.

3 A 600V, 1500 rpm, 80A separately excited dc motor is fed through a three phase semi converter from 400v supply. Motor armature resistance 1Ω armature current is assumed constant. For a firing angle of 45° at 1200 rpm, compute the r.m.s values of source and thyristor current and the input supply power factor. [15]

4 Draw and explain the operation of Dual- Converter in circulating and Non-circulating current control methods. [15]

5 Derive the expressions for average motor current, RMS motor currents, Torque, and average motor voltage, for chopper fed D.C separately excited motor. [15]

6 a) Explain the Variable frequency control of induction motor by Voltage source inverter. [8]

b) Explain the speed control of induction motor by PWM technique for VSI. [7]

7 a) What is rotor resistance control .why rotor resistance control is preferred in low power crane drives. [7]

b) Explain static Kramer drive of wound rotor induction motor with neat circuit diagram. [8]

8 Explain self control operation of VSI fed synchronous motor drives and draw the Closed Loop control operation of VSI fed synchronous motor drives. [15]

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Code No: **R32035** **R10** **Set No. 1**

III B.Tech II Semester Supplementary Examinations, April - 2016

DESIGN OF MACHINE MEMBERS-II

(Mechanical Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

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1 a) Describe the various stages of formation of hydrodynamic film lubrication. Plot the pressure distribution under full hydrodynamic film lubrication

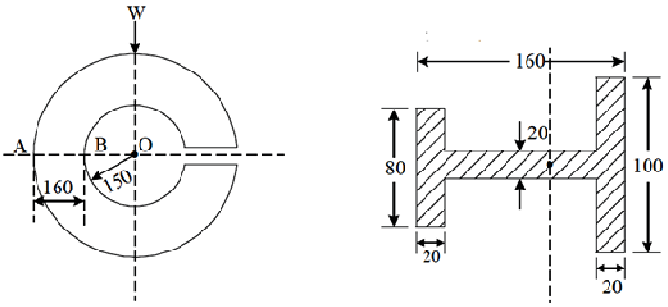
b) A ball bearing subjected to a radial load of 5 kN is expected to have a life of 8000 hours at 1440 rpm with a reliability of 99%. Calculate the dynamic load capacity of the bearing so that it can be selected from the manufacturer's catalogue based on a reliability of 90%.

2 Check the suitability of the I section 15 mm X 12 mm X 3 mm for designing the connecting rod in the case of single cylinder motor cycle of engine of 40 mm bore by 55 mm stroke wherein the maximum pressure produced is 3.6 MPa and in which the connecting rod is four times the crack. Draw a neat sketch of the connecting rod.

3 a) Discuss the design of piston for an internal combustion engine.

b) Discuss the various types of stresses induced in the cylinder of an IC engine.

4 A circular open steel ring is subjected to a compressive force of 80 kN as shown in the figure below. The cross-section of the ring is made up of an unsymmetrical I-section with an inner radius of 150mm. Estimate the circumferential stresses developed at points A and B.



5 a) Differentiate between the drums and sheaves of a rope drives.

b) Design a fabric belt to transmit 15 HP at 450 rpm from an engine shaft to a line shaft at 1200rpm. The diameter of the engine pulley is 600 mm and centre distance between shafts is 2 m.

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6 a) Derive the expression for formative number of teeth for helical gears.

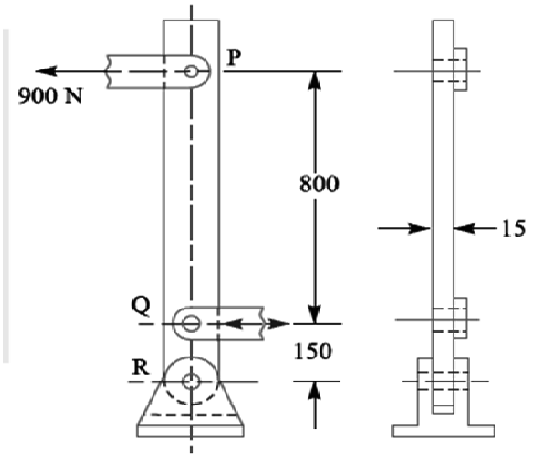
b) A bronze pinion rotating at 1440 rpm is to transmit 1.2 kW to a cast iron gear at a speed of 360 rpm. Assuming a starting overload of 20% and using 20° full depth involute teeth, determine the module, number of teeth on the pinion and gear and face width. Take allowable static strength for bronze as 40 MPa and for cast iron as 50 MPa.

7 a) What is self locking property of threads and where it is necessary?

b) A single square thread power screw is to raise a load of 50 kN. A screw thread of major diameter of 34 mm and a pitch of 6 mm is used. The coefficient of friction at the thread and collar are 0.15 and 0.1 respectively. If the collar frictional diameter is 100 mm and the screw turns at a speed of 1 rev/s, find the power input to the screw and the combined efficiency of the screw and collar.

8 A vertical lever PQR, 15 mm thick is attached by a fulcrum pin at R and to a horizontal rod at Q, as shown in figure below. An operating force of 900 N is applied horizontally at P. Find :

a) Reactions at Q and R,
b) Tensile stress in 12 mm diameter tie rod at Q
c) Shear stress in 12 mm diameter pins at P, Q and R, and
d) Bearing stress on the lever at Q.



All dimensions in mm.

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Code No: **R32055** **R10** **Set No. 1**

III B.Tech II Semester Supplementary Examinations, April – 2016

ADVANCED JAVA AND WEB TECHNOLOGIES

(Common to CSE and IT)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks

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1	a)	What is Java script? Write a short Java script to validate uses credential in a login page.	[8M]
	b)	Compare and contrast static webpage and dynamic webpage with suitable examples.	[7M]
2	a)	Briefly explain Php's conditional statements with suitable examples.	[10M]
	b)	Discuss how functions are created and used in Php.	[5M]
3	a)	Explain the use of DTD's in XML with an example.	[8M]
	b)	Explain at least four built in Methods used with DOM.	[7M]
4	a)	Explain in detail about Java Bean API.	[8M]
	b)	Write in detail about BDK introspechin.	[7M]
5	a)	Write about Java x. servelet package in detail.	[8M]
	b)	What are cookies? Explain different types of cookies with examples.	[7M]
6		Write a program to authenticate uses, using JDBC and JSP.	[15M]
7	a)	Write a suitable program to demonstrate the deployment of Java beans in a JSP page.	[7M]
	b)	Explain the different rotes of action in struts framework.	[8M]
8	a)	What is Ajax? Discuss how to control the duration of a request in Ajax.	[8M]
	b)	Write about the application a near of Ajax with suitable examples.	[7M]

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