<form>         Image: Image</form>		210	210	210	210	210	210		
Total Number of Pages: 02       210       210       210       B.Tech PME6D003         6 <sup>th</sup> Semester Regular / Back Examination 2018-19         POWER PLANT ENGINEERING         BRANCH : MECH         Time : 3 Hours         Max Marks : 100         20       20         Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.         The figures in the right hand margin indicate marks. Use of Steam table and Refrigeration table are allowed in the examination hall.         Part-1         (2 × 10)         a)         What are effects of regeneration and reheet on efficiency and work output of the power plant.         Define the term 'Breeding''         (2 × 10)         And are the major factors that decide the economics of power plants?         What are the major factors that decide the economics of power plants?         What are the major factors that decide the common moderators?         What are the major factors that decide the common moderator?         What are the major factors that decide the economics of power plants?         What are the major factors that decide the common moderator?         What a									
Total Number of Pages: 02       210       210       210       B.Tech PME6D003         6 <sup>th</sup> Semester Regular / Back Examination 2018-19         POWER PLANT ENGINEERING         BRANCH : MECH         Time : 3 Hours         Max Marks : 100         20       20         Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.         The figures in the right hand margin indicate marks. Use of Steam table and Refrigeration table are allowed in the examination hall.         Part-1         (2 × 10)         a)         What are effects of regeneration and reheet on efficiency and work output of the power plant.         Define the term 'Breeding''         (2 × 10)         And are the major factors that decide the economics of power plants?         What are the major factors that decide the economics of power plants?         What are the major factors that decide the common moderators?         What are the major factors that decide the common moderator?         What are the major factors that decide the economics of power plants?         What are the major factors that decide the common moderator?         What a									
Iteration       PAGE 2003         6 <sup>th</sup> Semester Regular / Back Examination 2018-19       POWER P LANT ENGINEERING         BRANCH : MECH       Time : 3 Hours         Max Marks : 100       200         210       210         210       210         210       210         211       210         212       211         213       211         214       215         215       10         216       10         217       10         218       10 <td></td> <td>Registration N</td> <td>lo :</td> <td></td> <td></td> <td></td> <td></td> <td></td>		Registration N	lo :						
<ul> <li>6<sup>th</sup> Semester Regular / Back Examination 2018-19 POWER PLANT ENGINEERING BRANCH : MECH Time : 3 Hours Max Marks : 100</li> <li>210 210 210 210 210</li> <li>210 210 210 210 210</li> <li>210 210 210 210 210</li> <li>210 210 210</li> <li>210 210 210 210</li> <li>210 210<!--</td--><td>Tota</td><td>al Number of Pa</td><td>ages<sup>210</sup>: 02</td><td>210</td><td>210</td><td>210</td><td>B.Iec</td><td></td></li></ul>	Tota	al Number of Pa	ages <sup>210</sup> : 02	210	210	210	B.Iec		
BRANCH : MECH Time : 3 Hours Max Marks : 100       200       200         210       210       210       210         Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-II.       310       210         The figures in the right hand margin indicate marks.Use of Steam table and Refrigeration table are allowed in the examination hall.       310       210         Q1       Short Answer Type Questions (Answer All-10)       (2 x 10)       (2 x 10)         a)       What are effects of regeneration and reheat on efficiency and work output of the power plant.       (2 x 10)         b)       What are the function of economizer and air preheater?       (2 Define the term "Breeding"         c)       Uwhat is the function of economizer and air preheater?       (2 Define the term "Breeding"         d)       What are the micro hydel plants? Why are they important now days?       (2 What are the advantages of super critical boiler over critical boilers?         h)       What are the advantages of the combined power cycles.       210         i)       Differentiate condenser efficiency and vacuum efficiency?       210         j)       Write one relative merit and one demart of D fan over FD fan.       210         a)       How are nuclear reactor classified? Discuss fast breeder reactor.       (6 x 8)         a)       How waste is disposed of in nuclear power station? What			6 <sup>th</sup> Semes	ter Regular / B	ack Examinat	ion 2018-19	PNIEODUU	13	
Time : 3 Hours Max Marks : 100         210       210       210       210       210         Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.         The figures in the right hand margin indicate marks.Use of Steam table and Refrigeration table are allowed in the examination hall.         Part-1         (2 × 10)         (2 × 10)         and colspan="2">(2 × 10)         (2 × 10)         (2 × 10)         (2 × 10)         (2 × 10)         (2 × 10)         (2 × 10       (2 × 10) </td <td></td> <td></td> <td>F</td> <td></td> <td></td> <td>NG</td> <td></td> <td></td>			F			NG			
210       210       210       210       210         Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-III.       The figures in the right hand margin indicate marks.Use of Steam table and Refrigeration table are allowed in the examination hall.         The figures in the right hand margin indicate marks.Use of Steam table and Refrigeration table are allowed in the examination hall.       (2 × 10)         a)       Short Answer Type Questions (Answer All-10)       (2 × 10)         a)       What are effects of regeneration and reheat on efficiency and work output of the power plant.       (2 × 10)         b)       What are the micro hydel plants? Why are they important now days?       (2 × 10)         c)       Define the term "Breeding"       210         d)       What are the major factors that decide the economics of power plants?       210         g)       What are the advantages of super critical boiler over critical boilers?       210         h)       List out the inherent advantages of the combined power cycles. 210       210         i)       Differentiate condenser efficiency and vacuum efficiency?       210         j)       Write one relative merit and one demerit of ID fan over FD fan.       6 × 8)         a)       How are nuclear reactor classified? Discuss fast breeder reactor.       6         b)       Write a short note on Peak load, Demand factor and Load f				Time : 3	3 Hours				
Answer Question No.1 (Part-1) which is compulsory, any eight from Part-II and any two from Part-II. The figures in the right hand margin indicate marks.Use of Steam table and Refrigeration table are allowed in the examination hall. Part-1 (21 Short Answer Type Questions (Answer All-10) (2 × 10) a) What are effects of regeneration and reheat on efficiency and work output of the power plant. b) What is the function of economizer and air preheater? c) Define the term "Breeding" d) What are the micro hydel plants? Why are they important now days? e) What are the moir of hydel plants? Why are they important now days? e) What are the advantages of super critical boiler over critical boilers? h) Usit out the inherent advantages of the combined power cycles. f) What is the use of load curves in power plants? g) What are the advantages of the combined power cycles. f) Uniferentiate condenser efficiency and vacuum efficiency? j) Write one relative merit and one demerit of ID fan over FD fan. Part-II focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) a) How are nuclear reactor classified? Discuss fast breeder reactor. b) Write a short note on Peak load, Demand factor and Load factor c) What is a moderator? Name the common moderators and discuss their relative advantages and disadvantages. d) Give the functions and materials for the followings : (i) reflector (ii) biological shield e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste? f) Explain the principle involved in design of chimney. g) Why are the steam turbines compounded? What are the different methods of a compounding? 10 210 210 210 210 210 f) Define (i) approach (ii) range (iii) cooling officiency of a cooling tower i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits. j) Give a short note on Water treatment systems. k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C		210	210			210	210		
The figures in the right hand margin indicate marks. Use of Steam table and Refrigeration table are allowed in the examination hall.         Part-1         Colspan="2">Colspan="2"         Other the transmitter of Colspan="2"         Viati are the main factors that decide the economics of power plants?         Viati are the main factors that decide the economics?         Viati are the advantages of super critical boilers?         Viati are the main darenerits <td cols<="" td=""><td>Α</td><td></td><td></td><td>1) which is cor</td><td>npulsory, any</td><td></td><td></td><td></td></td>	<td>Α</td> <td></td> <td></td> <td>1) which is cor</td> <td>npulsory, any</td> <td></td> <td></td> <td></td>	Α			1) which is cor	npulsory, any			
table are allowed in the examination hall.         Part-1         C1       Short Answer Type Questions (Answer All-10)       (2 x 10)         a)       What are effects of regeneration and reheat on efficiency and work output of the power plant.       b)         b)       What is the function of economizer and air preheater?       c)       Define the term "Breeding"         d)       What are the major factors that decide the economics of power plants?       What are the major factors that decide the economics of power plants?         f)       What are the advantages of super critical boiler over critical boilers?       210         h)       Ubit is out the inherent advantages of the combined power cycles.       210         i)       Differentiate condenser efficiency and vacuum efficiency?       210         j)       Write one relative merit and one demerit of ID fan over FD fan.       (6 x 8)         a)       How are nuclear reactor classified? Discuss fast breeder reactor.       (6 x 8)         a)       How are nuclear reactor classified? Discuss fast breeder reactor.       (6 x 8)         a)       How are nuclear neactor classified? Discuss fast breeder reactor.       (6 x 8)         a)       How are nuclear neactor classified? Discuss fast breeder reactor.       (6 x 8)         a)       How are nuclear neactor cl	ть	a figuras in the	right hand r	-		f Steam table a	ad Pofrigoration		
<ul> <li>Q1 Short Answer Type Questions (Answer All-10) (2 x 10)</li> <li>a) What are effects of regeneration and reheat on efficiency and work output of the power plant.</li> <li>b) What is the function of economizer and air preheater?</li> <li>c) Define the term "Breeding"</li> <li>d) What are the major factors that decide the economics of power plants?</li> <li>f) What is the use of load curves in power plants?</li> <li>g) What are the advantages of super critical boiler over critical boilers?</li> <li>h) "List out the inherent advantages of the combined power cycles. 210</li> <li>i) Differentiate condenser efficiency and vacuum efficiency?</li> <li>j) Write one relative merit and one demerit of ID fan over FD fan.</li> </ul> <b>Part-II Q2</b> Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8) <ul> <li>a) How are nuclear reactor classified? Discuss fast breeder reactor.</li> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c) Wrat is disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of 2 compounding?</li> <li>210 210 210 210 210 210</li> <li>210 10 210 210 210</li> <li>210 10 210 210 210</li> </ul> (a) May are the steam turbines compounded? What are the different methods of 2 compounding? (b) What are the stigram of hyperbolic cooling tower and discuss its merit and demerits. (c) Give a short note on Water treatment systems. (k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burrt per hour is 670 kg of calorific value 31000 kJ/kg. Determin</li></ul>	111	e ligures in the	-	-			in Reingeration		
<ul> <li>Q1 Short Answer Type Questions (Answer All-10) (2 x 10)</li> <li>a) What are effects of regeneration and reheat on efficiency and work output of the power plant.</li> <li>b) What is the function of economizer and air preheater?</li> <li>c) Define the term "Breeding"</li> <li>d) What are the major factors that decide the economics of power plants?</li> <li>f) What is the use of load curves in power plants?</li> <li>g) What are the advantages of super critical boiler over critical boilers?</li> <li>h) "List out the inherent advantages of the combined power cycles. 210</li> <li>i) Differentiate condenser efficiency and vacuum efficiency?</li> <li>j) Write one relative merit and one demerit of ID fan over FD fan.</li> </ul> <b>Part-II Q2</b> Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8) <ul> <li>a) How are nuclear reactor classified? Discuss fast breeder reactor.</li> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c) Wrat is disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of 2 compounding?</li> <li>210 210 210 210 210 210</li> <li>210 10 210 210 210</li> <li>210 10 210 210 210</li> </ul> (a) May are the steam turbines compounded? What are the different methods of 2 compounding? (b) What are the stigram of hyperbolic cooling tower and discuss its merit and demerits. (c) Give a short note on Water treatment systems. (k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burrt per hour is 670 kg of calorific value 31000 kJ/kg. Determin</li></ul>				Pa	rt- I				
<ul> <li>plant.</li> <li>b) What is the function of economizer and air preheater?</li> <li>c) Define the term "Breeding"</li> <li>d) What are the micro hydel plants? Why are they important now days?</li> <li>e) What are the major factors that decide the economics of power plants?</li> <li>f) What is the use of load curves in power plants?</li> <li>g) What are the advantages of super critical boiler over critical boilers?</li> <li>h) <sup>21</sup>List out the inherent advantages of the combined power cycles. <sup>210</sup></li> <li>i) Differentiate condenser efficiency and vacuum efficiency?</li> <li>j) Write one relative merit and one demerit of ID fan over FD fan.</li> </ul> <b>Part-II C2 Part-Short Answer Type Questions-</b> (Answer Any Eight out of Twelve) (6 x 8) <ul> <li>a) How are nuclear reactor classified? Discuss fast breeder reactor.</li> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c) <sup>21</sup>What is a moderator? Name the common moderators and discuss their relative advantages and disadvantages. d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> </ul> </li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of <sup>21</sup> compounding?<sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup></li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equival</li></ul>	Q1			stions (Answer A	All-10)	210	•	0)	
<ul> <li>b) What is the function of economizer and air preheater?</li> <li>c) Define the term "Breeding"</li> <li>d) What are the micro hydel plants? Why are they important now days?</li> <li>e) What are the micro hydel plants? Why are they important now days?</li> <li>e) What are the major factors that decide the economics of power plants?</li> <li>f) What is the use of load curves in power plants?</li> <li>g) What are the advantages of super critical boiler over critical boilers?</li> <li>h)<sup>21</sup> List out the inherent advantages of the combined power cycles. <sup>210</sup> <sup>210</sup></li> <li>i) Differentiate condenser efficiency and vacuum efficiency?</li> <li>j) Write one relative merit and one demerit of ID fan over FD fan.</li> </ul> <b>Part-II Q2</b> Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8) <ul> <li>a) How are nuclear reactor classified? Discuss fast breeder reactor.</li> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c)<sup>21</sup> What is a moderator? Name the common moderators and discuss their relative advantages and disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>i) reflector (ii) control rods (iii) biological shield</li> </ul> </li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of <sup>21</sup> compounding?<sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup></li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific</li></ul>		-	fects of regene	eration and rehea	t on efficiency a	nd work output of	the power		
<ul> <li>d) What are the micro hydel plants? Why are they important now days?</li> <li>e) What are the major factors that decide the economics of power plants?</li> <li>f) What is the use of load curves in power plants?</li> <li>g) What are the advantages of super critical boiler over critical boilers?</li> <li>h) <sup>21</sup> List out the inherent advantages of the combined power cycles. <sup>210</sup> <sup>210</sup></li> <li>i) Differentiate condenser efficiency and vacuum efficiency?</li> <li>j) Write one relative merit and one demerit of ID fan over FD fan.</li> <li>Part-II</li> <li>Q2 Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)</li> <li>a) How are nuclear reactor classified? Discuss fast breeder reactor.</li> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c) What is a moderator? Name the common moderators and discuss their relative advantages and disdvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of a compounding?<sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup></li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul></li></ul>		•	function of ecc	nomizer and air p	preheater?				
<ul> <li>e) What are the major factors that decide the economics of power plants?</li> <li>f) What is the use of load curves in power plants?</li> <li>g) What are the advantages of super critical boiler over critical boilers?</li> <li>h) List out the inherent advantages of the combined power cycles. 200 210</li> <li>i) Differentiate condenser efficiency and vacuum efficiency?</li> <li>j) Write one relative merit and one demerit of ID fan over FD fan.</li> <li><b>Part-II</b></li> <li>Q2 Focused-Short Answer Type Questions - (Answer Any Eight out of Twelve) (6 x 8)</li> <li>a) How are nuclear reactor classified? Discuss fast breeder reactor.</li> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c) What is a moderator? Name the common moderators and discuss their relative advantages and disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of 21 compounding?210 210 210 210 210 210 210 210 210 210</li></ul></li></ul>									
<ul> <li>f) What is the use of load curves in power plants?</li> <li>g) What are the advantages of super critical boiler over critical boilers?</li> <li>h)<sup>2</sup> List out the inherent advantages of the combined power cycles. <sup>210</sup> <sup>210</sup> <sup>210</sup></li> <li>i) Differentiate condenser efficiency and vacuum efficiency?</li> <li>j) Write one relative merit and one demerit of ID fan over FD fan.</li> <li><b>Part-II</b></li> <li><b>Q2</b> Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)</li> <li>a) How are nuclear reactor classified? Discuss fast breeder reactor.</li> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c)<sup>2</sup> What is a moderator? Name the common moderators and discuss their relative advantages and disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> </ul> </li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup></li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>									
<ul> <li>g) What are the advantages of super critical boiler over critical boilers?</li> <li>h) Elist out the inherent advantages of the combined power cycles. 210 210</li> <li>i) Differentiate condenser efficiency and vacuum efficiency?</li> <li>j) Write one relative merit and one demerit of ID fan over FD fan.</li> <li>Q2 Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)</li> <li>a) How are nuclear reactor classified? Discuss fast breeder reactor.</li> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c) What is a moderator? Name the common moderators and discuss their relative advantages and disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of 21 compounding?210 210 210 210 210 210</li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul></li></ul>									
<ul> <li>i) Differentiate condenser efficiency and vacuum efficiency?</li> <li>j) Write one relative merit and one demerit of ID fan over FD fan.</li> <li>Part-II</li> <li>Q2 Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)</li> <li>a) How are nuclear reactor classified? Discuss fast breeder reactor.</li> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c)<sup>21</sup> What is a moderator? Name the common moderators and discuss their relative advantages and disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of 21 compounding?210</li> <li>210</li> <li>210<!--</td--><td></td><td>g) What are the</td><td>e advantages o</td><td>of super critical be</td><td>oiler over critical</td><td></td><td></td><td></td></li></ul></li></ul>		g) What are the	e advantages o	of super critical be	oiler over critical				
<ul> <li>j) Write one relative merit and one demerit of ID fan over FD fan.</li> <li>Part-II</li> <li>Q2 Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)</li> <li>a) How are nuclear reactor classified? Discuss fast breeder reactor.</li> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c)<sup>21</sup> What is a moderator? Name the common moderators and discuss their relative advantages and disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> </ul> </li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of 21 compounding?210 210 210 210 210 210 210</li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>						cles. <sup>210</sup>	210		
<ul> <li>Q2 Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)</li> <li>a) How are nuclear reactor classified? Discuss fast breeder reactor.</li> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c)<sup>21</sup> What is a moderator? Name the common moderators and discuss their relative advantages and disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> </ul> </li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of <sup>21</sup> compounding?<sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup></li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>						fan.			
<ul> <li>Q2 Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)</li> <li>a) How are nuclear reactor classified? Discuss fast breeder reactor.</li> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c)<sup>21</sup> What is a moderator? Name the common moderators and discuss their relative advantages and disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> </ul> </li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of <sup>21</sup> compounding?<sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup></li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>				Par	t- II				
<ul> <li>b) Write a short note on Peak load, Demand factor and Load factor</li> <li>c) <sup>21</sup>What is a moderator? Name the common moderators and discuss their relative advantages and disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> </ul> </li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of <sup>21</sup> compounding?<sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup></li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>	Q2	Focused-S	hort Answer T			Eight out of Twel	ve) (6 x 8	)	
<ul> <li>c)<sup>21</sup>What is a moderator? Name the common moderators and discuss their relative advantages and disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> </ul> </li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of <sup>21</sup> compounding?<sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup> <sup>210</sup></li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>		,							
<ul> <li>advantages and disadvantages.</li> <li>d) Give the functions and materials for the followings : <ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> </ul> </li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of 21 compounding?210 210 210 210 210 210</li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>		-					ir relâtive		
<ul> <li>(i) reflector (ii) control rods (iii) biological shield</li> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of 21 compounding?210</li> <li>210</li> <li></li></ul>		•							
<ul> <li>e) How waste is disposed off in nuclear power station? What are the main difficulties in handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of 21 compounding?210 210 210 210 210 210</li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>									
<ul> <li>handling radioactive waste?</li> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of 21 compounding?210 210 210 210 210 210</li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>						t are the main diff	figulting in		
<ul> <li>f) Explain the principle involved in design of chimney.</li> <li>g) Why are the steam turbines compounded? What are the different methods of 21 compounding?210 210 210 210 210 210</li> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>		-							
<ul> <li>21 compounding?210</li> <li>210</li> <li>210<td></td><td>-</td><td></td><td></td><td>himney.</td><td></td><td></td><td></td></li></ul>		-			himney.				
<ul> <li>h) Define (i) approach (ii) range (iii) cooling efficiency of a cooling tower</li> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>				-					
<ul> <li>i) Draw the neat diagram of hyperbolic cooling tower and discuss its merit and demerits.</li> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>							210		
<ul> <li>j) Give a short note on Water treatment systems.</li> <li>k) 5400 kg of steam is produced per hour at a pressure of 7.5 bar in aboilerwith feed water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.</li> </ul>							lemerits.		
water at 41.5°C. The dryness fraction of steam at exit is 0.98. The amount of coal burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.		j) Give a short	t note on Wate	r treatment syste	ms.				
burnt per hour is 670 kg of calorific value 31000 kJ/kg. Determine the boilern efficiency and equivalent of evaporation.									
and equivalent of evaporation.									
					Loo Noring. Dett		Shiolonoy		
					210	210	210		

		210	210		210		210		
				Pa	rt-III				
0	Q3	21 In a coge Steam is turbine to from the liquid at 2 a)The s b)The h	swer Type Ques eneration plant, the generated at 4 o a condenser at turbine at 2 bar 2 bar and then put team generation leat input to the b	stions (Answer ) he power load is 0 bar and 500°( t 0.06 bar. The h r, which is conde umped back to th capacity in the b	Any Two out of 5.6 MW and the C and is expand heating load is s ensed in the pro- e boiler. Comput	e heating load is ded isentropically supplied by extra ocess heater to	y through a cting steam	(16)	210
)		<sub>210</sub> d)The h e)The ra	uel burnig rate leat rejected to th ate of flow of coo Neglect pump wo	ling water in the	210 condenser if the	210 e temperature rise	210 e of water is		210
	Q4	Steam ve Nozzle a	wing particulars a elocity at nozzle e ngle=16° ade velocity=120	exit =500 m/s	v velocity compo	ounded impulse v	vheel :	(16)	
		<sup>21</sup> Exit angl blades=3 Steam flo Blade frio <b>Determin</b> a) the tar b) the ax	es: first row mov 86° ow=5 kg/s ction coefficient=0 ne : ngential thrust	ing blades =18°,	fixed guide blad	les=22º,⁴ŝecond	row moving		210
		, .	agram efficiency	210	210	210	210		210
	Q5	motion. T direction 10 cm hi 0.935. if without s	ction turbine, the The guide blades . At a certain plac gh. At this place the speed of this shock, find the m	are of the same ce in the turbine, the steam has a turbine is 250 r.p nass of the stea	shape as the mo the drum diamet pressure of 1.7 o.m and the stea m flow and pow	oving blades, but ter is 1 meter and 5 barand drynes m passesthrough ver developed in	reversed in blades are fraction of the blades the ring of	(16)	010
	00	21 moving b		210	210	210	210	(4.0)	210
	Q6	A surface The stea pipes is required 21 diameter	iate between Jet e condenser deal im enters 0.85 di 36°C. The air le if the average he for the dry air p 5 and volumetric o	ls with 13625 kg ry and the tempe eakgae amounts eat transmission ump, if it is to be	of steam per ho erature at the co to 7.26 kg/hou rate is 4 kJ/cm <sup>2</sup> e single <sub>1</sub> acting a	ur at a pressure ondensate and a r. Determine (i) ² per second (ii)	ir extraction the surface the cylinder	(16)	210
		210	210	210	210	210	210		210