## Bangladesh Sweden Polytechnic Institute Kaptai, Rangamati Hill Tracts Automobile Technology 6<sup>th</sup> Semester Semester Plan (2016 Probidan) T P C Advance Automotive Mechanisms (66261) 2 3 3

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No. of	No. of	Theory Class Content	Practical	Remarks
Week	Class		Contents	
01	01	<ol> <li>1.1 State the meaning of EFI system.</li> <li>1.2 Outline the importance of EFI system.</li> <li>1.3 Mention the different types of EFI system.</li> <li>1.4 Describe the operation of different types of EFI system.</li> </ol>	Identify the components of air induction system.	
	02	<ol> <li>1.5 Compare port fuel injection (PFI) and throttle body fuel injection (TBI) system.</li> <li>1.6 Explain the operating principle of EFI system.</li> <li>1.7 Describe basic construction of EFI system.</li> <li>1.8 Mention the advantages and disadvantages of EFI system with respect to carburetor system.</li> </ol>		
02	01	<ul><li>2.1 State the meaning of air induction system.</li><li>2.2 List the components of EFI air induction system.</li><li>2.3 Mention the function of each components of air induction system.</li></ul>	Identify the components of fuel delivery system.	
	02	<ul><li>2.4 Describe the operation of each components of air induction system.</li><li>2.5 Explain the acoustic control induction system.</li><li>Quiz Test-01</li></ul>		
03	01	<ul> <li>3.1 State the meaning of fuel delivery system of EFI engine.</li> <li>3.2 List the components of fuel delivery system of EFI engine.</li> <li>3.3 Mention the function of each components of fuel delivery system.</li> <li>3.4 Describe the construction of each components of fuel delivery system</li> </ul>	Identify the sensors, actuators and ECU/ECM/ ECA.	
	02	<ul> <li>3.5 Describe the operation of pulsed injection and continuous injection system.</li> <li>3.6 Describe the operation of cold start value.</li> <li>Class test-01</li> </ul>		
04	01	<ul> <li>4.1 Mention the function of sensors used in EFI engine.</li> <li>4.2 Outline the importance of sensors in EFI engine.</li> <li>4.3 List the common sensors used in EFI engine.</li> <li>4.4 Describe the construction of each sensor used in EFI engine.</li> <li>4.5 Describe the operation of each sensor used in EFI engine.</li> </ul>	Service the throttle body of EFI engine.	
	02	<ul><li>4.6 List the common actuators used in EFI engine.</li><li>4.7Mention the function of actuators used in EFI engine.</li><li>4.8 Describe the operation of Idle speed control (ISC) value.</li></ul>		

05	01	<ul> <li>5.1 State the meaning of ECU/ECM OF EFI engine.</li> <li>5.2 Mention the function of ECU/ECM of EFI engine.</li> <li>5.3 State the meaning of stoichio metric ratio.</li> <li>5.4 Outline the importance of stoichio metric ratio in EFI engine.</li> <li>5.5 Mention the function of electronic control system.</li> <li>5.6 Draw electronic control system with block diagram.</li> <li>5.7 Describe the air fuel metering system of EFI engine.</li> <li>Class test -02</li> </ul>	Service the fuel system of EFI engine.
06	01	<ul> <li>6.1 Describe visual inspection procedure of EFI system.</li> <li>6.2 Describe the service procedure of throttle body.</li> <li>6.3 Describe the service procedure of air induction system of EFI engine.</li> <li>Quiz Test02</li> </ul>	Diagnose the troubles of EFI circuits and devices with malfunction indicator
	02	<ul> <li>6.4 Describe the service procedure of fuel delivery system of EFI engine.</li> <li>6.5 Describe the trouble diagnosis procedure of EFI engine with the malfunction indicator light.</li> <li>6.6 Describe the trouble diagnosis procedure of EFI engine with the scan tool.</li> <li>6.7 Describe the on board diagnosis system (OBD) procedure of EFI engine.</li> </ul>	light.
07		Mid Term Exam	
08	01 02	<ul> <li>7.1 Define GDI system.</li> <li>7.2 Explain the operating principle of GDI system.</li> <li>7.3 Compare the GDI system with EFI system.</li> <li>7.4 Mention the advantages of GDI system.</li> <li>8.1 Define hybrid vehicle.</li> <li>8.2 Mention the type of Hybrid vehicle.</li> <li>8.3 Explain the operating principle of hybrid vehicle of each type.</li> <li>8.4 Mention the advantages of hybrid vehicle.</li> </ul>	Diagnose EFI system troubles with scan tool.
09	01 02	<ul> <li>9.1 Define VVT-i system.</li> <li>9.2 Describe the operation of VVT-i system.</li> <li>9.3 Mention the advantages of VVT-i system.</li> <li>9.4 Define veribale valve event &amp; lift (VVEL) control system.</li> <li>Quiz Test-03</li> <li>9.5 Describe the operation of VVEL control system.</li> <li>9.6 Mention the advantages of VVEL control system.</li> <li>9.7 Mention the defference between VVT-i &amp; VVEL control system.</li> </ul>	Observe the construction of the VVT - i system.
10	01 02	<ul> <li>10.1 Define cruise control system.</li> <li>10.2 Mention the purpose of cruise control system.</li> <li>10.3 Describe the operation of cruise control system with block diagram.</li> <li>11.1 Define traction control system.</li> <li>11.2 Describe the operation of traction control system.</li> <li>11.3 Mention the advantages of traction control system.</li> </ul>	Observe the construction of the GDI system.
11	01	Class Test – 03	Observe the construction of the SRS

	02	12.1 Define suplimentary restrain system (SRS).	system.
		12.2 Describe the operation of air bag system.	
		12.3 Describe the operation of seat belt mechanism.	
		12.4 Mention the advantages of SRS.	
12	01	13.1Name the system of accident prevention.	Observe the
		13.2Explain forward collision warning (FCW) system.	construction
		13.3 Explain rear view camera system.	of the cruise
		13.4 Explain lane departure warning (LDW) system.	system.
		13.5 Explain lane keeping assistance (LKA) system.	
	02	13.6 Explain lane auto parking system/ intelligent	
		parking assistance.	
		13.7 Explain tyre pressure monitoring system.	
		13.8 Explain pedestrian detection system.	
		13.9 Explain blind spot monitoring (BSM) system.	
13	01	Class test-04	
	02	Final Evaluation Test	