

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					A	0	3	5	0	4	
COURSE NAME	TRACTORS AND EARTHMOVERS										
CO Description	Student will be able to explain the construction/ working/ components of the given hydraulic control system										
LO Description	Student will be able to explain the construction / working/ components of the basic hydraulic control circuit										
SCHEME OF STUDY											
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks				
1.	Introduction to basic hydraulic control system, purpose, construction, working and components with schematic & flow diagram and applications	Traditional Lecture method	Teacher will organize lecture inside the class based on his/her session plan. Discuss the topics with students, provide quiz, assignment etc.	6	1	Book:- Oil hydraulic Systems : principles and maintenance by S R Majumdar or its equivalent	Teacher may suggest more video/PDF links, which will help the students to solve quiz, prepare assignments etc.				
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Max. Marks	Resources Required	External / Internal						
1.	Theory exam	One theory question related to the learned content will be asked in the university question paper	10	Question paper, Check list	External						
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
NIL											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code			Course Code			CO Code	LO Code	Format No.
					A	0	3	5	0	4	1	2	4
COURSE NAME		TRACTORS AND EARTHMOVERS											
CO Description		Student will be able to explain the construction/ working/ components of the given hydraulic control system											
LO Description		Student will be able to identify the main components of the given hydraulic control system											
SCHEME OF STUDY													
S. No.	Learning Content	Teaching –Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks						
1.	Main components used in basic hydraulic control systems, their purpose, construction with neat sketch and working	Lab demonstration	Teacher will demonstrate the contents to the students. Students will practice under the guidance of teacher.	3	4	Laboratory equipped with diagrams and/or trainer kit	Teacher may suggest more videos/PDF links, which will help the students to identify systems.						
SCHEME OF ASSESSMENT													
S. No.	Method of Assessment	Description of Assessment	Max. Marks	Resources Required	External / Internal								
1.	Laboratory Exam	Examiner will ask each students to identify at least five main components and state their purpose, location and function.	10	Group of components of basic hydraulic control system or diagrams, Rating scale	External								
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)													
NIL													

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No.
					A	0	3	5	0	4	1
COURSE NAME	TRACTORS AND EARTHMOVERS										
CO Description	Student will be able to explain the construction/ working/ components of the given hydraulic control system										
LO Description	Student will be able to develop simple hydraulic control circuit for the given purpose and operational conditions										
SCHEME OF STUDY											
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks				
1.	Introduction to development of various types of simple logical control circuits for the given purpose and operational conditions in hydraulics mode.	Traditional Lecture method	Teacher will organize lecture inside the class based on his/her session plan. Discuss the topics with students, provide quiz, assignment etc.	5	2	Book:- Oil hydraulic Systems : principles and maintenance by S R Majumdar Or its equivalent	Teacher may suggest more video/PDF links, which will help the students to solve quiz, prepare assignments etc.				
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Max. Marks	Resources Required	External / Internal						
1.	Theory exam	One theory question related to the learned content will be asked in the university question paper	10	Question paper, Check list	External						
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
NIL											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code			Course Code			CO Code	LO Code	Format No. 4
					A	0	3	5	0	4	2	1	
COURSE NAME		TRACTORS AND EARTHMOVERS											
CO Description		Student will be able to explain the construction / working /systems / components / specifications of the given tractor											
LO Description		Student will be able to classify the various tractors on basis of their use / technology adopted/ special features											
SCHEME OF STUDY													
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks						
1.	Introduction, development, purpose, applications and classifications of tractor on the basis of various features.	Traditional Lecture method	Teacher will organize lecture inside the class based on his/her session plan. Discuss the topics with students, provide quiz, assignment etc.	7	3	Books:- <ul style="list-style-type: none"> Tractor Mechanics by R. B. Gupta Farm Tractor, Power Tiller Maintenance & Repair by S. C. Jain and C. R. Roy 	Teacher may suggest more video/PDF links, which will help the students to solve quiz, prepare assignments etc.						
SCHEME OF ASSESSMENT													
S. No.	Method of Assessment	Description of Assessment	Max. Marks	Resources Required	External / Internal								
1.	Paper-pen test	Two theory questions related to the learned content will be asked in the test paper	15	Test paper, Check list	Internal								
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)													
NIL													

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code			Course Code			CO Code	LO Code	Format No. 4
					A	0	3	5	0	4	2	2	
COURSE NAME	TRACTORS AND EARTHMOVERS												
CO Description	Student will be able to explain the construction / working /systems / components / specifications of the given tractor												
LO Description	Student will be able to explain the construction / working/ systems / components / specifications of the basic tractor												
SCHEME OF STUDY													
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks						
1.	Working of various systems of basic tractor with layout. Main components and their functions. Technical specifications of basic tractor.	Traditional Lecture method	Teacher will organize lecture inside the class based on his/her session plan. Discuss the topics with students, provide quiz, assignment etc.	5	2	Books:- <ul style="list-style-type: none"> Tractor Mechanics by R. B. Gupta Farm Tractor, Power Tiller Maintenance & Repair by S. C. Jain and C. R. Roy 	Teacher may suggest more video/PDF links, which will help the students to solve quiz, prepare assignments etc.						
SCHEME OF ASSESSMENT													
S. No.	Method of Assessment	Description of Assessment	Max. Marks	Resources Required	External / Internal								
1.	Theory Exam	One theory question related to the learned content will be asked in university question paper.	10	University paper, Check list	External								
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)													
NIL													

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code			Course Code			CO Code	LO Code	Format No. 4
					A	0	3	5	0	4	2	3	
COURSE NAME	TRACTORS AND EARTHMOVERS												
CO Description	Student will be able to explain the construction / working /systems / components / specifications of the given tractor												
LO Description	Student will be able to identify various system / components of the given tractor												
SCHEME OF STUDY													
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks						
1.	Demonstration of various system and components of a tractor	Lab demonstration	Teacher will demonstrate the contents to the students. Students will practice under the guidance of teacher.	3	4	Preferably actual tractor, model otherwise diagrams are compulsory	Teacher may suggest more videos/PDF links, which will help the students to identify systems.						
SCHEME OF ASSESSMENT													
S. No.	Method of Assessment	Description of Assessment	Max.M arks	Resources Required	External / Internal								
1.	Laboratory Exam	Examiner will ask each students to identify at least five main components and state their purpose, location and function.	10	Actual tractor or model or diagrams, Rating scale	External								
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)													
NIL													

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					A	0	3	5	0	4	
COURSE NAME	TRACTORS AND EARTHMOVERS										
CO Description	Student will be able to explain the construction / working/ components of the special purpose systems of the given tractor										
LO Description	Student will be able to explain construction/ working / main components of the transmission system / power take off unit / hydraulic control system / ballasting of the given tractor										
SCHEME OF STUDY											
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks				
1.	Main components of the transmission system, gear shift pattern, gear box layout, power take off (PTO) unit, ballasting, breaking and hydraulic control system.	Traditional Lecture method	Teacher will organize lecture inside the class based on his/her session plan. Discuss the topics with students, provide quiz, assignment etc.	8	5	Books:- <ul style="list-style-type: none"> Tractor Mechanics by R. B. Gupta Farm Tractor, Power Tiller Maintenance & Repair by S. C. Jain and C. R. Roy 	Teacher may suggest more video/PDF links, which will help the students to solve quiz, prepare assignments etc.				
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment			Max. Marks	Resources Required	External / Internal				
1.	Theory Exam	Two theory questions related to the learned content will be asked in university question paper.			20	University paper, Check list	External				
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
NIL											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					A	0	3	5	0	4	
COURSE NAME	TRACTORS AND EARTHMOVERS										
CO Description	Student will be able to explain the construction / working/ components of the special purpose systems of the given tractor										
LO Description	Student will be able to identify the various components of the transmission system / power take off unit / hydraulic control system of the given tractor										
SCHEME OF STUDY											
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks				
1.	Demonstration of the transmission system, gear shift pattern, gear box layout, power take off (PTO) unit, wheel, and braking and hydraulic control system.	Lab demonstration	Teacher will demonstrate the contents to the students. Students will practice under the guidance of teacher.	3	5	Preferably actual tractor otherwise model, diagrams are compulsory	Teacher may suggest more videos/PDF links, which will help the students to identify systems.				
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Max. Marks	Resources Required	External / Internal						
1.	Laboratory Exam	Examiner will ask each students to identify at least five main components and state their purpose, location and function.	10	Actual tractor or diagrams, Rating scale	External						
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
NIL											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					A	0	3	5	0	4	
COURSE NAME	TRACTORS AND EARTHMOVERS										
CO Description	Student will be able to explain the construction / working / systems / main components / specifications of the given earthmover										
LO Description	Student will be able to classify different earthmovers on basis of their application/ technology used / special features										
SCHEME OF STUDY											
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks				
1.	Introduction, purpose, applications and classifications of earthmovers on the basis of various features.	Traditional Lecture method	Teacher will organize lecture inside the class based on his/her session plan. Discuss the topics with students, provide quiz, assignment etc.	7	3	<ul style="list-style-type: none"> Construction Equipment and Management by S. C. Sharma Manuals of Earth moving Equipments 	Teacher may suggest more video/PDF links, which will help the students to solve quiz, prepare assignments etc.				
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment			Max. Marks	Resources Required	External / Internal				
1.	Paper-pen test	Two theory questions related to the learned content will be asked in the test paper			15	Test paper, Check list	Internal				
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
NIL											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					A	0	3	5	0	4	
COURSE NAME	TRACTORS AND EARTHMOVERS										
CO Description	Student will be able to explain the construction / working / systems / main components / specifications of the given earthmover										
LO Description	Student will be able to explain the construction /working / main components/ specifications of the given power shovel/ backhoe / bulldozer										
SCHEME OF STUDY											
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks				
1.	Main components and their functions of power shovel, backhoe and bulldozer with labelled diagram.	Traditional Lecture method	Teacher will organize lecture inside the class based on his/her session plan. Discuss the topics with students, provide quiz, assignment etc.	4	3	Books:- <ul style="list-style-type: none"> Construction Equipment and Management by S. C. Sharma Manuals of Earth moving Equipments 	Teacher may suggest more video/PDF links, which will help the students to solve quiz, prepare assignments etc.				
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment			Max. Marks	Resources Required	External / Internal				
1.	Theory Exam	One theory question related to the learned content will be asked in university question paper.			10	University paper, Check list	External				
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
NIL											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					A	0	3	5	0	4	
COURSE NAME	TRACTORS AND EARTHMOVERS										
CO Description	Student will be able to explain the construction / working / systems / main components / specifications of the given earthmover										
LO Description	Student will be able to identify various system / components of the given tractor										
SCHEME OF STUDY											
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks				
1.	Demonstration of various system and their components of power shovel, backhoe and bulldozer	Lab demonstration	Teacher will demonstrate the contents to the students. Students will practice under the guidance of teacher.	3	4	Preferably actual earthmovers otherwise models/ diagrams/posters are compulsory	Teacher may suggest more videos/ PDF links, which will help the students to identify systems.				
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Max. Marks	Resources Required	External / Internal						
1.	Laboratory Test by Observation	Examiner will ask each students to identify at least five main components and state their purpose, location and function.	10	Actual earth movers or diagrams/posters, Rating scale	Internal						
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
NIL											

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME				Branch Code		Course Code		CO Code	LO Code	Format No. 4
						A	0	3	5	0	4	
COURSE NAME	TRACTORS AND EARTHMOVERS											
CO Description	Student will be able to explain the construction / working / components / specifications of special purpose systems used on the earthmovers											
LO Description	Student will be able to explain the construction / working / components / specifications of special purpose systems (three systems) used on the earthmovers											
SCHEME OF STUDY												
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks					
1.	Construction, working, components and specifications of special purpose systems used in power shovel, backhoe and bulldozer with diagrams.	Traditional Lecture method	Teacher will organize lecture inside the class based on his/her session plan. Discuss the topics with students, provide quiz, assignment etc.	5	3	Books:- <ul style="list-style-type: none"> Construction Equipment and Management by S. C. Sharma Manuals of Earth moving Equipments 	Teacher may suggest more video/PDF links, which will help the students to solve quiz, prepare assignments etc.					
SCHEME OF ASSESSMENT												
S. No.	Method of Assessment	Description of Assessment			Max. Marks	Resources Required	External / Internal					
1.	Theory Exam	One theory question related to the learned content will be asked in university question paper.			10	University paper, Check list	External					
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)												
NIL												

RGPV (Diploma Wing) Bhopal		SCHEME FOR LEARNING OUTCOME			Branch Code		Course Code		CO Code	LO Code	Format No. 4
					A	0	3	5	0	4	
COURSE NAME	TRACTORS AND EARTHMOVERS										
CO Description	Student will be able to explain the construction / working / components / specifications of special purpose systems used on the earthmovers										
LO Description	Student will be able to identify the components of given special purpose system used in earth movers										
SCHEME OF STUDY											
S. No.	Learning Content	Teaching – Learning Method	Description of T-L Process	Teach Hrs.	Pract. /Tut Hrs.	LRs Required	Remarks				
1.	Demonstration of special purpose systems and their components of power shovel, backhoe and bulldozer	Lab demonstration	Teacher will demonstrate the contents to the students. Students will practice under the guidance of teacher.	2	5	Preferably actual earthmovers otherwise model/ diagrams/ posters are compulsory	Teacher may suggest more videos/PDF links, which will help the students to identify systems.				
SCHEME OF ASSESSMENT											
S. No.	Method of Assessment	Description of Assessment	Max. Marks	Resources Required	External / Internal						
1.	Laboratory Test by Observation	Examiner will ask each students to identify at least five main components and state their purpose, location and function.	10	Actual earth movers or model/ diagrams/ posters, Rating scale	Internal						
ADDITIONAL INSTRUCTIONS FOR THE HOD/ FACULTY (IF ANY)											
NIL											