Discipline	: Semester	
Mechanic	al 3RD	Name of the Teaching faculty: Niraman Kora
Engineerii Material (Th-3)	ng No of Day Week clas alloted: 4	s/ s Semester from Date: 01, 09, 20 To Date: 31, 12, 20 No of weeks: 15
Week	Class Da	V Tania
	1st	CH.1 Engineering materials and their properties.
1st	2nd	Properties of Materials: Physical properties
	3rd	Properties of Materials: Chemical properties
	4th	Properties of Materials: Mechanical properties.
	1st	Properties of Materials: Mechanical properties.
	2nd	Performance requirements and Material reliability and safety
2nď	3rd	CH.2 Ferrous materials and alloys. Characteristics and application of ferrous materials and classification of low carbon steel.
	4th	Composition and application of low carbon steel.
	1st	Classification, composition and application of medium carbon steel.
3rd	2nd	Classification, composition and application of high carbon steel.
514	3rd	Alloy steel: Low alloy steel, high alloy steel, tool steel and stainless steel
	4th	Tool steel: Effect of various alloying elements such as Cr, Mn, Ni, V, Mo.
	1st	CH. 3 Iron- Carbon System. Concept of phase diagram
4th	2nd	Concept of phase diagram
	3rd	Concept of cooling curves
	4th	Concept of cooling curves
5th	1st	Features of Iron-Carbon diagram with salient micro-constituents of Iron and Steel
	2nd	Features of Iron-Carbon diagram with salient micro-constituents of Iron and Steel
	3rd	Features of Iron-Carbon diagram with salient micro-constituents of Iron and Steel
	4th	Features of Iron-Carbon diagram with salient micro-constituents of Iron and Steel
6th	1st	CH. 4. Cyrstal Imperfections. Crystal defines, classification of crystals, ideal crystal and crystal imperfections

		a line defects
	2nd	Classification of imperfection: Point defects, line defecte
	3rd	surface defects and volume defects
	4th	Types and causes of point defects: Vacancies, Interstitiate charter
	1st	Interstitials and impurities
741.	2nd	Types and causes of line defects: Edge dislocation and screw dislocation
7th	3rd	Effect of imperfection on material properties
	4th	Deformation by slip and twinning
	1st	Effect of deformation on material properties
	2nd	CLASS TEST 1
8th	3rd	CH. 5. Heat treatment. Purpose of Heat treatment
	4th	Process of heat treatment: Annealing, normalizing, hardening
	1st	Process of heat treatment: Annealing, normalizing, hardening
	2nd	Tampering, stress relieving measures
9th	3rd	Tampering, stress relieving measures
	4th	Surface hardening: Carburizing and Nitriding
	1st	Surface hardening: Carburizing and Nitriding
	2nd	Effect of heat treatment on properties of steel
10th	3rd	Effect of heat treatment on properties of steel
	4th	Hardenability of steel
	1st	CH. 6. Non-ferrous alloys. Aluminum alloys: Composition, property and usage of Duralmin, y- alloy
11th	2nd	Copper alloys: Composition, property and usage of Copper Maniment, Copper-Tin alloy.
	3rd .	Copper alloys: Babbit , Phosperous bronze, brass, Copper-Nickel alloy.
	4th	Predominating elements of lead alloys, Zinc alloys and Nickel alloys.
	1st	Low alloy materials like P-91, P-22 for power plants and other high temperature services.
	2nd	High alloy materials like stainless steel grades of duplex, super duplex materials etc.
12th	3rd	CH. 7. Bearing Material. Classification, composition, properties and uses of Copper base, Tin Base bearing material.
	4th	Classification, composition, properties and uses of Lead base, Cadmium base bearing materials.
	1st	CH. 8. Spring materials : Classification, composition, properties and uses of Iron base spring material.
12+h	2nd	Classification, composition, properties and uses of Copper base spring material
13th	3rd	CH. 9. Polymers : Properties and application of thermosetting polymers.

	4th	Polymers : Properties and an it is
	1st	Properies of elastomers. CH. 10. Composites and Ceramics
14th		Classification, composition, properties and uses of particulate based
	2nd	Classification, composition, properties and uses of fiber reinforced composites.
	3rd	Classification and uses of ceramics
	4th	Classification and uses of coromics
	1st	previous year question diagnasian
15th	2nd	previous year question discussion.
	3rd	previous year question discussion.
	4th	CLASS TEST 2

Signature of Faculty

Discipline: Mechanic:	Semester:	Name of the Teaching faculty: Nincuston kondi
Subject: Engineerin Material (Th-3)	No of Days Week class alloted: 4	Semester from Date: $01 16 2$) To Date: $08 6 22$ No of weeks: 15
Week	Class Day	Topics
	1st	CH.1 Engineering materials and their properties. Material classification into ferrous and non ferrous category and alloys
1st	2nd	Properties of Materials: Physical properties
	3rd	Properties of Materials: Chemical properties.
	4th	Properties of Materials: Mechanical properties.
	1st	Properties of Materials: Mechanical properties.
	2nd	Performance requirements and Material reliability and safety
2nd	3rd	CH.2 Ferrous materials and alloys. Characteristics and application of ferrous materials and classification of low carbon steel.
	4th	Composition and application of low carbon steel.
	1st	Classification, composition and application of medium carbon steel.
	2nd	Classification, composition and application of high carbon steel.
3rd	3rd	Alloy steel: Low alloy steel, high alloy steel, tool steel and stainless steel
	4th	Tool steel: Effect of various alloying elements such as Cr, Mn, Ni, V, Mo.
	1st	CH. 3 Iron- Carbon System. Concept of phase diagram
4th	2nd	Concept of phase diagram
	3rd	Concept of cooling curves
	4th	Concept of cooling curves
	1st	Features of Iron-Carbon diagram with salient micro-constituents of Iron and Steel
Eth	2nd	Features of Iron-Carbon diagram with salient micro-constituents of Iron and Steel
301	Brd	Features of Iron-Carbon diagram with salient micro-constituents of Iron and Steel
4	th	Features of Iron-Carbon diagram with salient micro-constituents of Iron and Steel
6th 1	st (CH. 4. Cyrstal Imperfections. Crystal defines, classification of crystals, ideal crystal and crystal mperfections

	2nd	Classification of imperfection: Point defects, line defects
	3rd	surface defects and volume defects
	4th	Types and causes of point defects: Vacancies, Interstitials and impurities
	1st	Interstitials and impurities
	2nd	Types and causes of line defects: Edge dislocation and screw dislocation
7th	3rd	Effect of imperfection on material properties
	Ath	Deformation by slip and twinning
	1ct	Effect of deformation on material properties
	2nd	CLASS TEST 1
8th	3rd	CH. 5. Heat treatment. Purpose of Heat treatment
	4th	Process of heat treatment: Annealing, normalizing, hardening
	1st	Process of heat treatment: Annealing, normalizing, hardening
	2nd	Tampering, stress relieving measures
9th	3rd	Tampering, stress relieving measures
	4th	Surface hardening: Carburizing and Nitriding
	1ct	Surface hardening: Carburizing and Nitriding
	2nd	Effect of heat treatment on properties of steel
10th	3rd	Effect of heat treatment on properties of steel
	4th	Hardenability of steel
	1st	CH. 6. Non-ferrous alloys. Aluminum alloys: Composition, property and usage of Duralmin, y- alloy
11th	2nd	Copper alloys: Composition, property and usage of CopperAluminum, Copper-Tin alloy.
	3rd	Copper alloys: Babbit , Phosperous bronze, brass, Copper- Nickel alloy.
	4th	Predominating elements of lead alloys, Zinc alloys and Nickel alloys .
	1st	Low alloy materials like P-91, P-22 for power plants and other high temperature services.
	2nd	High alloy materials like stainless steel grades of duplex, super duplex materials etc.
12 th	3rd	CH. 7. Bearing Material. Classification, composition, properties and uses of Copper base, Tin Base bearing material.
	4th	Classification, composition, properties and uses of Lead base, Cadmiu base bearing materials.
	1st	CH. 8. Spring materials : Classification, composition, properties and uses of Iron base spring material.
13th	2nd	Classification, composition, properties and uses of Copper base sprin material
	3rd	CH. 9. Polymers : Properties and application of thermosetting polymers.

	4th	Polymers : Properties and application the
	1st	CH. 10. Composites and Ceramics. Classification, composition, properties and uses of particulate here in
14th	2nd	Classification, composition, properties and uses of fiber reinforced
	3rd	Classification and uses of
	4th	Classification and uses of ceramics.
	1st	provide the second seco
	2	previous year question discussion.
15th	2nd	previous year question discussion
	3rd	previous year question discussion
	4th	CLASS TEST 2

Signature of Faculty

Discipline: Mechanica	Semester: al 3RD	Name of the Teaching faculty: Niranjan Kandi
Subject: Engineerin Material (Th-3)	No of Days Week class alloted: 4	Semester from Date: 15. 9.22 To Date: 21.01.23 No of weeks: 15 Semester: 34
Week	Class Day	Topics
	1st	CH.1 Engineering materials and their properties. Material classification into ferrous and non ferrous category and alloys
1st	2nd	Properties of Materials: Physical properties
	3rd	Properties of Materials: Chemical properties.
	4th	Properties of Materials: Mechanical properties.
	1st	Properties of Materials: Mechanical properties.
	2nd	Performance requirements and Material reliability and safety
2nd	3rd	CH.2 Ferrous materials and alloys. Characteristics and application of ferrous materials and classification of low carbon steel.
	4th	Composition and application of low carbon steel.
	1st	Classification, composition and application of medium carbon steel.
ard	2nd	Classification, composition and application of high carbon steel.
310	3rd	Alloy steel: Low alloy steel, high alloy steel, tool steel and stainless steel
	4th	Tool steel: Effect of various alloying elements such as Cr, Mn, Ni, V, Mo.
	1st	CH. 3 Iron- Carbon System. Concept of phase diagram
4th	2nd	Concept of phase diagram
	3rd	Concept of cooling curves
	4th	Concept of cooling curves
	1st	Features of Iron-Carbon diagram with salient micro-constituents of Iron and Steel
5th	2nd	Features of Iron-Carbon diagram with salient micro-constituents of Iron and Steel
4	3rd	Features of Iron-Carbon diagram with salient micro-constituents of Iron and Steel
	4th	Features of Iron-Carbon diagram with salient micro-constituents of Iron and Steel
6th	lst C	CH. 4. Cyrstal Imperfections. Crystal defines, classification of crystals, ideal crystal and crystal mperfections

		the tables of the defects
	2nd	Classification of imperfection: Point defects, line defects
	3rd	surface defects and volume defects
	4th	Types and causes of point defects: Vacancies, Interstitials and impermeet
	1st	Interstitials and impurities
	2nd	Types and causes of line defects: Edge dislocation and screw dislocation.
7th	3rd	Effect of imperfection on material properties
	4th	Deformation by slip and twinning
	1st	Effect of deformation on material properties
	2nd	CLASS TEST 1
8th	3rd	CH. 5. Heat treatment. Purpose of Heat treatment
	4th	Process of heat treatment: Annealing, normalizing, hardening
	1st	Process of heat treatment: Annealing, normalizing, hardening
	2nd	Tampering, stress relieving measures
9th	3rd	Tampering, stress relieving measures
	4th	Surface hardening: Carburizing and Nitriding
	1st	Surface hardening: Carburizing and Nitriding
	2nd	Effect of heat treatment on properties of steel
10th	3rd	Effect of heat treatment on properties of steel
	4th	Hardenability of steel
	1st	CH. 6. Non-ferrous alloys. Aluminum alloys: Composition, property and usage of Duralmin, y- alloy
11th	2nd	Copper alloys: Composition, property and usage of CopperAluminum, Copper-Tin alloy.
	3rd	Copper alloys: Babbit , Phosperous bronze, brass, Copper- Nickel alloy.
	4th	Predominating elements of lead alloys, Zinc alloys and Nickel alloys .
	1st	Low alloy materials like P-91, P-22 for power plants and other high temperature services.
	2nd	High alloy materials like stainless steel grades of duplex, super duplex materials etc.
12th	3rd	CH. 7. Bearing Material. Classification, composition, properties and uses of Copper base, Tin Base bearing material.
	4th	Classification, composition, properties and uses of Lead base, Cadmium base bearing materials.
	1st	CH. 8. Spring materials : Classification, composition, properties and uses of Iron base spring material.
13th	2nd	Classification, composition, properties and uses of Copper base spring material
	3rd	CH. 9. Polymers : Properties and application of thermosetting polymers.

lan .	4th	Polymers :Properties and application thermoplastic polymers and properies of elastomers
	1st	CH. 10. Composites and Ceramics. Classification, composition, properties and uses of particulate based composites.
14th	2nd	Classification, composition, properties and uses of fiber reinforced composites.
	3rd	Classification and uses of ceramics.
	4th	Classification and uses of ceramics.
15th	1st	previous year question discussion.
	2nd	previous year question discussion.
	3rd	previous year question discussion.
	4th	CLASS TEST 2

PRINCIPAL R.K Institute of Engg & Tech Kantapada, Niali, Cuttack

N. . Karodul Signature of Faculty

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Discipline :	Semester: 2~	Name of the Teaching Faculty Man Avrange on and
Subject :	No. of	Semector From date: N to a To Date: 0 1/10 0
Environmental	Davs / por	pennesier From date: 01-09.20 10 Date: 31.12.20
Studios	bays/ per	
Week	week 04	AND
	Class Day	Topics
	1st	1. The Multidisciplinary nature of environmental studies: Definition,
157	2nd	scope
	3rd	and importance
	4th	1.2 Need for public awareness
	1st	2. Natural Resources: Renewable and non renewable resources: Natural resources and associated problems.
ZND	2nd	2.1.1. Forest resources: Use and over-exploitation, deforestation, case studies,
	3rd	Timber extraction mining, dams and their effects on forests and tribal people.
	4th	2 1.2. Water resources: Use and over-utilization of surface and ground water, floods,
	lsi	Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources. Food Resources: World food problems, changes caused by agriculture and over grazing
3RD	2nd	effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity,
	Зrd	2.1.5. Energy Resources: Growing energy need, renewable and non-renewable energy sources,
	4th	2.1.6. Land Resources: Land as a resource, land degradation, man induces landslides,
diameter and the second second	_ 1st	2.2 Role of individual in conservation of natural resources.
	2nd	2.3 Equitable use of resources for sustainable life styles.
4TH	Зrd	3. Systems: Concept of an eco system.
	4th	3.2. Structure and function of an eco system.
5TH	1st	3.3. Producers, consumers, decomposers.
8 8 8 ° 6 1	2nd	3.4. Energy flow in the eco systems.
	3rd	3.5. Ecological succession.
	4th	3.6. Food chains, food webs and ecological pyramids.
	1st	3.7. Introduction, types, characteristic features, structure and function of the following eco system:
бтн	2nd	Forest ecosystem: Aquatic eco systems (ponds, streams, lakes, rivers, oceans,estuaries)
	3rd	4 Biodiversity and it's Conservation: Introduction
	4th	Definition: genetics, species and ecosystem diversity.
1 water and the second of the	lst	Value of biodiversity: consumptive use, productive use,
	2nd	social ethical, and a substant and a substant and a substant and a substant a substant a substant a substant a
7TH	3rd	Biodiversity at global national and local level.
	4th	Threats to biodiversity: Habitats loss, poaching of wild life, man wildlife conflicts.
	lst	Unit 5: Environmental Pollution. Definition Causes, effects and control measures of: a) Air pollution.b) Water pollution.

	2nd	c) Soil pollution d) Marine pollution e) Noise pollution.
BTH .		f) Thermal pollution g) Nuclear hazards Solid waste Management: Causes, effects and
	3rd	control measures of urban and
		industrial wastes.
	411	Role of an individual in prevention of pollution. Disaster management: Flood, earth
	-401	quake, cyclone and landslides.
		Disaster management: Floods earth
	lst	guake, cyclone and landslides.
		Unit & Enciplication and the Environment
	2nd	Form unsustainable to sustainable development Value of biodiversity; consumptive use,
	2/10	
e.		productive use,
		Water conservation, rain water harvesting,
9th		water shed management.
	3rd	
		Resettlement and rehabilitation
		of people; its problems nd concern.
		Environmental ethics: issue and possible solutions.
		Climate change, global warming, acid rain, ozone layer depletion,
	4th	nuclear accidents and holocaust, case studies.
		(
	lst	Air (prevention and control of pollution) Act. Water (prevention and control of pollution)
		Act.Public awareness.
		Unit 7: Human population and the environment
	2nd	Population growth and variation among nations. Population explosion- family were re-
10TH		program.
	3rd	Environment and human health.
		Human rights.
	4th	Value education.Role of information technology in
		environment and human health.

Manury in Land Signature of the faculty

PRINCIPAL R.K Institute of Engg & Tech Kantapada, Niali, Cuttack

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Discipline : Mar	Semester: 2	Name of the Teaching Faculty: Sivani Sasikemta Mohanty
Subject :	No of	Semester From date: NIIN 21 To Date: 8022
Subject.	Dovs / per	
Environmenta	Days/ per	
Studies	Week	Topics
Week	Class Day	f an importal studies:
	1st	1. The Multidisciplinary nature of environmental studies, Definition,
157	2nd	scope
	3rd	and importance.
	4th	1.2 Need for public awareness.
	1st	2. Natural Resources: Renewable and non renewable resources: Natural resources and associated problems.
2.ND	2nd	2.1.1. Forest resources: Use and over-exploitation, deforestation, case studies,
	Зrd	Timber extraction mining, dams and their effects on forests and tribal people.
	4th	2.1.2. Water resources: Use and over-utilization of surface and ground water, noous,
	1st	Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources. Food Resources: World food problems,changes caused by agriculture and over grazing
3RD	2nd	effects of modern agriculture, fertilizers- pesticides problems, water logging, salinity,
	3rd	2.1.5. Energy Resources: Growing energy need, renewable and non-renewable energy sources,
	4th	2.1.6. Land Resources: Land as a resource, land degradation, man induces landslides,
entre contra	_ 1st	2.2 Role of individual in conservation of natural resources.
	2nd	2.3 Equitable use of resources for sustainable life styles.
4TH	3rd	3. Systems: Concept of an eco system.
	4th	3.2. Structure and function of an eco system.
5TH	1st	3.3. Producers, consumers, decomposers.
	2nd	3.4. Energy flow in the eco systems.
	3rd	3.5. Ecological succession.
	4th	3.6. Food chains, food webs and ecological pyramids.
	1st	3.7. Introduction, types, characteristic features, structure and function of the following eco system:
6TH	2nd	Forest ecosystem: Aquatic eco systems (ponds, streams, lakes, rivers, oceans,estuaries)
	Зrd	4 Biodiversity and it's Conservation:
	4th	Definition: genetics, species and ecosystem diversity.
	lst	Value of biodiversity: consumptive use, productive use,
	2nd	social ethical,
7TH	3rd	
	510	Biodiversity at global, national and local level.
	4th	Threats to biodiversity: Habitats loss, poaching of wild life, man wildlife conflicts.
	lst	Unit 5: Environmental Pollution. Definition Causes, effects and control measures of:
지지 같은 것 같 같 ㅠ		a) Air pollution.b) Water pollution.

	2nd	c) Soil pollution d) Marine pollution e) Noise pollution.
8TH		f) Thermal pollution g) Nuclear hazards Solid waste Management: Causes, effects and
	3rd	control measures of urban and
		industrial wastes.
	4.1	Role of an individual in prevention of pollution. Disaster management: Flood, earth
	41/1	quake, cyclone and landslides.
		Disaster management: Floods, earth
	1st	quake, cyclone and landslides.
		a antesis a c
		Unit 6: Social issues and the Environment
	2nd	Form unsustainable to sustainable development. Value of biodiversity: consumptive use,
		productive use,
e		the standard
C (1)		Water conservation, rain water harvesung,
Stu		water shed management.
	3rd	
		Resettlement and renabilitation
		of people; its problems nd concern.
		Environmental etnics: issue and possible solutions
		Climate change, global warming, acturally before to yet be a
	4th	nuclear accidents and holocaust, ease steares
- data		Air (prevention and control of pollution) Act. Water (prevention and control of pollution)
	lst	Act. Public awareness.
		Unit 7: Human population and the environment
	2nd	Population growth and variation among nations. Population explosion- familywelfare
SOTH		program.
100 C 1 C 1	3rd	Environment and human health.
		Human rights.
	4th	Value education.Role of information technology in
		environment and human health.

Signature of the faculty

PRINCIPAL R.K Institute of Engg & Tech Kantapada, Niali, Cuttack

Discipline : Meo	Gemester: 3	Name of the Teaching Faculty: Sivan's Sasikanta Mohanty
Subject :	No of	Semester From date: 16.09.22 To Date: 21.01.23
Environmental	Davis / por	
Charlentar	Days/per	
Studies	Week U	Topics
Week	Class Day	Topic
	1st	1. The Multidisciplinary nature of environmental studies: Definition,
157	2nd	scope
	3rd	and importance.
	4th	1.2 Need for public awareness.
	1st	2. Natural Resources: Renewable and non renewable resources: Natural resources and associated problems.
2ND	2nd	2.1.1. Forest resources: Use and over-exploitation, derorestation, ease over
	3rd	Timber extraction mining, dams and their effects on forests and the mean water, floods,
	4th	2.1.2. Water resources: Use and over-utilization of surface and a
	1st	Mineral Resources: Use and exploitation, environmental effects of extracting and using mineral resources. Food Resources: World food problems, changes caused by agriculture
	2nd	effects of modern agriculture, fertilizers- pesticides problems, water logging,
BRD	ZIIG	salinity,
5110	3rd	2.1.5. Energy Resources: Growing energy need, renewable and non-renewable chergy sectors,
	4th	2.1.6. Land Resources: Land as a resource, land degradation, man induces lanusides,
1	1st	2.2 Role of individual in conservation of natural resources.
	2nd	2.3 Equitable use of resources for sustainable life styles.
4TH	Зrd	3.Systems: Concept of an eco system.
	4th	3.2. Structure and function of an eco system.
5TH	1st	3.3. Producers, consumers, decomposers.
	2nd	3.4. Energy flow in the eco systems.
	3rd	3.5. Ecological succession.
	4th	3.6. Food chains, food webs and ecological promises
	1st	following eco system:
6TH	2nd	Forest ecosystem: Aquatic eco systems (ponds, streams, lakes, rivers, oceans,estuaries)
	3rd i	4 Biodiversity and it's Conservation: ntroduction
	4th I	Definition: genetics,species and ecosystem diversity.
	lst	/alue of biodiversity: consumptive use, productive use,
	2nd s	social ethical,
	ā	aesthetic and optin values.
7TH	3rd	
	E	Biodiversity at global, national and local level.
	4th 7	Threats to biodiversity: Habitats loss, poacning of wild life, that when e
	C	onflicts.
	lst l	Definition Causes, effects and control measures of:) Air pollution.b) Water pollution.

	2nd	c) Soil pollution d) Marine pollution e) Noise pollution.
втн		f) Thermal pollution g) Nuclear hazards Solid waste Management: Causes, effects and
•	3rd	control measures of urban and
		industrial wastes.
		Role of an individual in prevention of pollution. Disaster management: Flood, earth
	4th	quake, cyclone and landslides.
		Dicastor management: Floods earth
	1st	duaka avelane and landslides
	1.00	
		· ·
		Unit 6: Social issues and the Environment
	2nd	Form unsustainable to sustainable development.value of bibliversity. consumption and
		productive use,
ĸ		Water conservation, rain water harvesting,
Offic		water shed management.
200	3rd	
	510	Resettlement and rehabilitation
		of people; its problems nd concern.
		Environmental ethics: issue and possible solutions.
		Climate change, global warming, acid rain, ozone layer depletion,
	4th	nuclear accidents and holocaust, case studies.
		(
		Air (prevention and control of pollution) Act. Water (prevention and control of pollution)
	Ist	Act.Public awareness.
		Unit 7: Human population and the environment
	2nd	Population growth and variation among nations. Population explosion reason was
1075		program.
	3rd	Environment and human nearth.
		Human rights.
	4th	Value education. Role of information technology in
		environment and human health.

Signature of the faculty

Discipline: Mechanical	Semester: 3rd	Name of the Teaching faculty: Debandonias Gamenteray
Subject:	No of	Semester from Date: 04/09/20 To Date: 31/12/20
Production	Days/Week class	No of weeks: 16
Technology	alloted: 3	
Week	Class Day	Topics
		i) introduction to Production technology
	lict	ii) importance of this subjects, Cos
	150	iii) syllabus description of each module
		iv) Extrusion process
1st	Jud	i) Classification of extrusion processes
	2110	ii) dirrect extrusion process
	3 rel	i) indirect extrusion
	510	ii) impact extrusion
	ሻለት	i) rolling process
		ii) classification of rolling process
	1st	i) hot working and cold working process
2.1	2nd	i) cold rolling and hot rolling process.
2na	3rd	i) different types of rolling mills used in Rolling process.
	4th	i) welding and classification of various welding processes.
	1st	i) function of fluxes used in welding
	2nd	i) Oxy-acetylene welding process
		ii) tools and equipments
3rd	Sed	i) Oxy-acetylene welding process parameters
	510	ii) safety measures
	4th	i) various types of flames used in Oxy-acetylene welding
-	1.c+	i) Arc welding process
	151	ii) tools and equipments
	and	i) Arc welding process parameters
4th	2110	ii) safety measures
	3rd	i) Specification of an arc welding electrodes
ſ	Ath	i) resistance welding principles
		ii) classification
	1ct	i) butt welding
	ца.	ii) flash welding
		i) projection welding
	2nd	ii) seam welding

-: LESSON PLAN:-

51	th	
		in perculaion welding
	3rd	i) no weiding process
		ii) equipments
	4th	i) who welding process
	15+	ii) equipments
1	151	I) unterences between TIG and MIG welding process
	2nd	i) weiging defects
6th	ר	II) causes and remedies
	3rd	() welding defects
		ii) causes and remedies
	4th	CLASS TEST 1, Previous year questions, quiz test
	1st	i) defination of casting
		ii) classification of casting process
7th	2nd	i) procedure of Sand mould casting.
-	3rd	i) different types of molding sands with their composition
	4th	i) molding sand properties
	1st	i) different types of pattern
0.1	2nd	i) various pattern allowances
oln.	3rd	i) Classification of core
	4th	i) construction and working of cupola furnace
	1st	i) construction and working of cupola furnace
	2nd	i) construction and working of crucible furnace
9th	3rd	i) die casting methods and principles
	4th	i) centrifugal casting process
		ii) centrifugal casting
	İst	i) centrifuging
	151	ii) advantages
10th	2nd	i) limitation and area of application
	3rd	i) various casting defects with their causes and remedies.
	4th	i) various casting defects with their causes and remedies.
	1st	i) Define powder metallurgy process, why powder metallurgy?
	2nd	ii) advantages of powder metallurgy technology technique
11th	3rd	i) methods of producing powder from materials
	4th	i) methods of powder metallurgy technique
	1st	i) methods of powder metallurgy technique.
104	2nd) sintering process and secondary processes
12th	3rd I	Economics of powder metallurgy
	4th (LASS TEST 2, Previous year questions, quiz
	1st ii	press work process and process parameters

.

	2nd	i) blanking operation
2.21		ii) punching
12111		iii) trimmine
	3rd	i) various types of punch
	4th	i) various types of dies
ng daagadada ay daga ay		i) press work on simple dies
	1st	ii) advantages, disadvantages
	Non-	III) applications
	2nd	i) press work on compound dies
		li) advantages, disadvantages
14th		iii) applications
	3rd	i) press work on progressive dies
		ii) advantages, disadvantages
		lii) applications
	4th	i) definations of Jigs and fixture
	1st	i) advantages of using jigs and fixtures
	2nd	i) principle of locations
15%	3rd	i) methods of location with respect to 3-2-1 point location of rectangular jig
	4th	i) methods of location with respect to 3-2-2 point roter
		i) various types of jig and fixtures
	2nd	i) various types of jig and fixtures
16th	3rd	previous year question disscussion
	4th	CLASS TEST 3, Previuos year questions, quiz

LEARNING RESOURCES

		Title of the book
SL NO.	Author	Production Technology, Vol- 1& II
1	O.P. Khanna	Workshop technology, Vol- 1& II
2	B.S Raghuwanshi	Manufacturing technology, Voly I&II
3	P.N. Rao	Manufacturing technology, Vol-1
4	P.C.Sharma	

Milson 21 1.10,21 Signature of Faculty need) (1888, need)

PRINCIPAL R.K Institute of Engg & Tech Kantapada, Niali, Cuttack

Discipline: Mechanical	Semester: 3rd	Name of the Teaching faculty: Debadate to Soman Attany	
Subject: Production	No of Days/Week class	Semester from Date: 4/10/21 To Date: 31/01/22 No of weeks: 16	
Technology	alloted: 3	3 ^{ng} Semester	
Week	Class Day	Topics	
an an de term of the day of a set. Made y water of game water a pro-		i) introduction to Production technology	
	1 -4	ii) importance of this subjects, Cos	
	150	iii) syllabus description of each module	
		iv) Extrusion process	
6 - ÷		i) Classification of extrusion processes	
151	2nd	ii) dirrect extrusion process	
		i) indirect extrusion	
	370	ii) impact extrusion	
	n/ L	i) rolling process	
	411	ii) classification of rolling process	
	lst	i) hot working and cold working process	
	2nd	i) cold rolling and hot rolling process.	
2nd	3rd	i) different types of rolling mills used in Rolling process.	
	4th	i) welding and classification of various welding processes.	
	1st	i) function of fluxes used in welding	
-	2nd	i) Oxy-acetylene welding process	
		ii) tools and equipments	
3rd	3rd	i) Oxy-acetylene welding process parameters	
		ii) safety measures	
ŀ	Ath	i) various types of flames used in Oxy-acetylene welding	
	411	i) Arc welding process	
	1st	ii) tools and equipments	
F		i) Arc welding process parameters	
4+6	2nd	ii) safety measures	
400) Specification of an arc welding electrodes.	
-) resistance welding principles	
	4th	i) classification	
) butt welding	
	1st i	i) flash welding	
-) projection welding	
	and	i) seam welding	

5th				iii) percutaion welding	and the reserve for
				i) TIG welding process	
		3rd		ii) equipments	
		Ath		i) MIG welding process	
		401		ii) equipments	
		lst		i) differences between TIG and MIG welding process	
		Jad		i) welding defects	
		2110		ii) causes and remedies	
	61	and		i) welding defects	
		510		ii) causes and remedies	
		áth		CLASS TEST 1, Previous year questions, quiz test	
		lat		i) defination of casting	
		151		ii) classification of casting process	
	7th	2nd		i) procedure of Sand mould casting.]
		3rd		i) different types of molding sands with their composition	
		4th		i) molding sand properties	
		1st		i) different types of pattern	
		2nd		i) various pattern allowances	
8th	8th	Зrd		i) Classification of core	
The second se		4th		i) construction and working of cupola furnace	
in the second se		1st		i) construction and working of cupola furnace	
		2nd		i) construction and working of crucible furnace	
	9th	3rd		i) die casting methods and principles	
		4th) centrifugal casting process	
			i	i) centrifugal casting	
		İst	i,	centrifuging	
		151	ii) advantages	
	10th	2nd	i)	limitation and area of application	_
		3rd	i)	various casting defects with their causes and remedies.	
		4th	i)	various casting defects with their causes and remedies.	
	and an all the second se	1st	i)	Define powder metallurgy process, why powder metallurgy	
	1111	2nd	ii)	advantages of powder metallurgy technology technique	
	3rd	i) r	nethods of producing powder from materials	27.7.81	
	ſ	4th	i) n	nethods of powder metallurgy technique.	-
	a state of the	1st	i) n	nethods of powder metallurgy technique.	
		2nd	i) si	ntering process and secondary processes	
	12111	3rd	i) Ec	onomics of powder metallurgy	
		4th	CLA	SS TEST 2, Previous year questions, quiz	
		1st	i) pr	ess work process and process parameters	

the second second second second second second second second second second second second second second second se	
2nd	i) blanking operation
	ii) punching
	iii) trimmine
2rd	
<u>لارا الا</u>	Q various types of poincin
4th	i) various types of dies
	i) press work on simple dies
lst	ii) advantages, disadvantages
	iii) applications
2nd	i) press work on compound dies
	ii) advantages, disadvantages
	iii) applications
3rd	i) press work on progressive dies
	ii) advantages, disadvantages
	lii) applications
4th	i) definations of Jigs and fixture
l 1st	i) advantages of using Jigs and fixtures
2nd	i) principle of locations
3rd	i) methods of location with respect to 3-2-1 point location of rectangular jig
4th	i) methods of location with respect to 3-2-1 point location of rectangular he
1st	i) various types of jig and fixtures
2nd	i) various types of jig and fixtures
3rd	previous year question disscussion
4th	CLASS TEST 3, Previuos year questions, quiz
	2nd 3rd 4th 1st 2nd 3rd 4th 1st 2nd 3rd 4th 1st 2nd 3rd 4th 1st 2nd 3rd 4th

LEARNING RESOURCES

		Title of the book	
SI. No.	Author		
1	O.P. Khanna	Production Technology, Vol- I& II	
	B S Raghuwanshi	Workshop technology, Vol- 1& II	
	D.S. Hagriotration	Manufacturing technology, Vol 1&11	200
3	P.N. Rao		A LOUIS CONTRACTOR OF THE REAL
4	P.C.Sharma	Manufacturing technology, vol-1	

With 21

-:LESSON PLAN:-

Discipline: Mechanical	Semester: 3rd	Name of the Teaching faculty: Debadatta Scrucultray
Subject: Production Technology	No of Days/Week class alloted: 3	Semester from Date: \8/09/22 To Date: \$1/01/23 No of weeks: 16
Week	Class Day	Topics
		i) introduction to Production technology
	1.4	ii) importance of this subjects. Cos
	151	iii) syllabus description of each module
		iv) Extrusion process
1 ct		i) Classification of extrusion processes
1 31	2nd	(ii) dirrect extrusion process
	7.4	i) indirect extrusion
	510	ii) impact extrusion
	A1+-	i) rolling process
		ii) classification of rolling process
	1st	i) hot working and cold working process
	2nd	i) cold rolling and hot rolling process.
2nd	3rd	i) different types of rolling mills used in Rolling process.
	4th	i) welding and classification of various welding processes.
	lst	i) function of fluxes used in welding
	2nd	i) Oxy-acetylene welding process
		ii) tools and equipments
3rd	3rd	i) Oxy-acetylene welding process parameters
		ii) safety measures
	4th	i) various types of flames used in Oxy-acetylene welding
1		i) Arc welding process
	1st	ii) tools and equipments
	2	i) Arc welding process parameters
4th	200	ii) safety measures
1	3rd	i) Specification of an arc welding electrodes
	A . 1	i) resistance welding principles
	4th	ii) classification
19 T	1.1	i) butt welding
	1st	ii) flash welding
		i) projection welding
	2nd	ii) seam welding

5th		iii) percutaion welding
		I) TIG welding process
	3rd	ii) equipments
S. Carlor	Alb	i) MIG welding process
	40	ii) equipments
	1st	i) differences between TIG and MIG welding process
1	200	i) welding defects
61	2110	ii) causes and remedies
6th	and	i) welding defects
	510	ii) causes and remedies
	4th	CLASS TEST 1, Previous year questions, quiz test
	1.05	i) defination of casting
	150	ii) classification of casting process
7th	2nd	i) procedure of Sand mould casting.
	3rd	i) different types of molding sands with their composition
	4th	i) molding sand properties
	lst	i) different types of pattern
	2nd	i) various pattern allowances
8th	Зrd	i) Classification of core
	4th	i) construction and working of cupola furnace
	1st	i) construction and working of cupola furnace
	2nd	i) construction and working of crucible furnace
9th	3rd	i) die casting methods and principles
241		i) centrifugal casting process
	4th	ii) centrifugal casting
6		i) centrifuging
	1st	ii) advantages
10th t	200	i) limitation and area of application
	200	i) various casting defects with their causes and remedies.
- F	310	i) various casting defects with their causes and remedies.
<u></u>	4(1)	i) Define powder metallurgy process, why powder metallurgy?
4	Ist	ii) advantages of powder metallurgy technology technique
11th	2nd	in advantages et person en advantages et person en advantages et person et al advantages et person et al advantages
	3rd	i) methods of producing permat
	4th	i) methods of powder metallurgy technique.
	1st	i) methods of powder metallurgy technique.
	2nd li) sintering process and secondary processes
2th	3rd li) Economics of powder metallurgy
-	410 10	LASS TEST 2, Previous year questions, quiz
	1-1 [1]	press work process and process parameters

	2nd	i) blanking operation
1315		li) punchine
-		iii) trimming
	3rd	i) various types of punch
	4th	i) various types of dies
ng Li Bi ja Bigin Kaj		i) press work on simple dies
ni e oraș și di Vini Mili	1st	ii) advantages, disadvantages
		iii) applications
		i) press work on compound dies
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2nd	ii) advantages, disadvantages
*		iii) applications
	3rd	i) press work on progressive dies
		ii) advantages, disadvantages
4 Markel (18)		iii) applications
	4th	i) definations of Jigs and fixture
	1st	i) advantages of using jigs and fixtures
	2nd	i) principle of iocations
15th	Brd	i) methods of location with respect to 3-2-1 point location of rectangular is
	4th	i) methods of location with respect to 3-2-1 point location of rectangular (g
	1st	i) various types of jig and fixtures
	2nd	i) various types of jig and fixtures
16th	3rd	previous year question disscussion
	4th	CLASS TEST 3, Previuos year questions, quiz

LEARNING RESOURCES

		Title of the book
SI. No.	Author	Production Technology, Vol- 1& II
1	O.P. Khanna	
2	B.S.Raghuwanshi	Workshop technology, vol- 18 ll
	P N Bao	Manufacturing technology, vor Jahr
3	P C Sharma	Manufacturing technology, vol-1

PRINCIPAL R.K Institute of Engg & Tech Kantapada, Niali, Cuttack

Signature of Faculty Meeth)

Discipline:- M.E	Semester: 3 rd	Name of the teaching faculty:- Mukiti Karota Mohapatog	
Subject. SOM	No. Of days / per week class allotted:- OY	Semester 324 from date: 01, 09,20 To Date: 31,12,20 No. Of weeks:- 15	
Week	Class day	TOPICS	
	1st	Types of load, stresses & strains	
1 st	2nd	strains,(Axial and tangential) Hooke's law, Young's modulus	
	3rd	bulk modulus, modulus of rigidity, Poisson's ratio,	
	4th	derive the relation between three elastic constants,	
	1st	Principle of super position, stresses in composite section	
2 ND	2nd	Temperature stress, determine the temperature stress in composite bar (single core)	
	3rd	Strain energy and resilience, Stress due to gradually applied, suddenly applied and impact load	
-	4th [·]	Simple problems on above.	
	1st	Definition of hoop and longitudinal stress, strain	
3 RD	2nd	Derivation of hoop stress, longitudinal stress	
_	3rd	hoop strain, longitudinal strain and volumetric strain	
-	4th	Computation of the change in length, diameter and volume	
	1st	Simple problems on above	
ЛТН	2nd	Simple problems on above	
~7	3rd	Simple problems on above	
	4th	Simple problems on above	
	1st	Determination of normal stress	

	2		X
5 TH	2nd	shear stress and resultant stress on oblique plane	
	3rd	Location of principal plane and computation of principal stress	
	4th	Location of principal plane and computation of principal stress	4
	1st	Maximum shear stress using Mohr's circle	
6 ^{тн}	2nd	Types of beam and load	
	3rd		
	4th	Shoer F	
-	1st	itea linear Force and Bending moment diagram	
	2nd	its salient features illustration in cantilever beam	
7 TH	210	simply supported beam and over hanging beam under point load and uniformly distributed load	
	3rd	Assumptions in the theory of bending,	-
	4th	Bending equation	-
	1st	Moment of resistance	
8 TH	2nd	Section modulus& neutral axis	
	3rd	Solve simple problems	
	4th	Solve simple problems	
	1st	Define column	
9 TH	2nd	Axial load, Eccentric load on column	
	3rd	Direct stresses	
	4th	Bending stresses	
	1st	Maximum& Minimum stresses	
10 ^{тн}	2nd	Numerical problems on above	
	3rd	Numerical problems on above	
	4th	Numerical problems on above	1
	1st	Buckling load computation using Euler's formula (no derivation) in	
TH	2nd	Buckling load computation using Euler's formula (no derivation) in	
TT.	3rd	Columns Assumption of pure torsion	
	4th	Assumption of pure torsion	
	5		



	The state of the s	i ular shoft
	151	The torsion equation for solid and hollow circular share
12 ^{1H}	2nd	Comparison between solid and hollow shaft subjected to pure torsion
	3rd	Numerical problems PRACTISE
	4th	Numerical problems PRACTISE
	1st	Numerical problems PRACTISE
13 TH	2nd	Numerical problems PRACTISE
	3rd	Numerical problems PRACTISE
	4th	Numerical problems PRACTISE
v	1st	Numerical problems PRACTISE
TH	2nd	Numerical problems PRACTISE
14'	3rd	Numerical problems PRACTISE
	4th	REVISION
15 TH	1st	REVISION
	2nd	REVISION
	3rd	REVISION
	4th	REVISION

		Name of the Book
SINo.	Author Name	
1		
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-: LESSON PLAN:-

Discipline:- M.E	Semester: 3 rd	Name of the teaching faculty:- Divya provision hath Tiwow	
Subject. SOM	No. Of days / per week class allotted:- 04	Semester 3^{n_0} from date: $0 \cdot 0\cdot21$ To Date: $8 0 22$ No. Of weeks:-	
Week	Class day	TOPICS	
	1st	Types of load, stresses & strains	
1 st	2nd	strains, (Axial and tangential) Hooke's law, Young's modulus	
	3rd	bulk modulus, modulus of rigidity, Poisson's ratio,	
	4th	derive the relation between three elastic constants,	
	1st	Principle of super position, stresses in composite section	
2 ND	2nd	Temperature stress, determine the temperature stress in composite bar (single core)	
	3rd	Strain energy and resilience, Stress due to gradually applied, suddenly applied and impact load	
	4th	Simple problems on above.	
	1st	Definition of hoop and longitudinal stress, strain	
3 RD	2nd	Derivation of hoop stress, longitudinal stress	
	3rd	hoop strain, longitudinal strain and volumetric strain	
	4th	Computation of the change in length, diameter and volume	
	1st	Simple problems on above	
а ^{тн}	2nd	Simple problems on above	
	3rd	Simple problems on above	
-	4th	Simple problems on above	
	1st	Determination of normal stress	

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	2nd		
ant .		shear stress -	
	3rd	these and resultant stress on oblique plane	
		Location of principality	
	4th	of principal plane and computation of principal stress	
n an the Same and the Same and the Same and the Same and the Same and the Same and the Same and the Same and th	The Connected Process States of Parallel Connected Parallel	Location of principal relation	
	1st	principal plane and computation of principal stress	
		Maximum shear stress using Mohr's circle	
	2nd		
		Types of beam and load	
	3rd	Concert	
		Concepts of Shear force and bending moment	
	4th	Shear Force and Bending moment diagram	+
	1.ct	and behaving moment diagram	
	15(its salient features illustration in cantilever beam	1
	2nd		
п		simply supported beam and over hanging beam under point load and	
	3rd	Assumptions in the theory of her direct	
		Assumptions in the theory of bending,	
	4th	Bending equation	
	1ct		
	150	Moment of resistance	
	2nd	Section modulus& neutral axis	
IH.			
	3rd	Solve simple problems	
	4th	Solve simple problems	
	1st	Define column	
	2		
9 TH	Zna	Axial load, Eccentric load on column	
-	3rd	Direct stresses	
	4th	Bending stresses	
and a the second of the second second second second second second second second second second second second se	1st	Maximum& Minimum stresses	
а. – ты	2nd	Numerical problems on above	1
10	2.4	Numerical problems on above	
	510		
	4th	Numerical problems on above	
	1	Buckling load computation using Fuler's formula (no derivation) in	
	ISU	Columns	
	2nd	Buckling load computation using Euler's formula (no derivation) in	
		Columns	
11 TH		Accumption of pure torsion	
11 TH	3rd	Assumption of pure torsion	
11 TH	3rd 4th	Assumption of pure torsion Assumption of pure torsion	

	1st		
/		The torsion equation	
1.21H	2nd	an equation for solid and hollow circular she fi	1
12		Comparison between call t	
	3rd	Number Solid and hollow shaft subjected to pure torsion	
		Numerical problems PRACTISE	
	4th	Numerical proble	
	1st	PRACTISE	
1 - TH	-50	Numerical problems PRACTISE	
13	2nd		
		Numerical problems PRACTISE	
	3rd	Numerical problem and	
	1+b	anterical problems PRACTISE	
	410	Numerical problems PRACTISE	
	1st	Numorical and the	
		Refine Problems PRACTISE	
14 TH	2nd	Numerical problems PRACTISE	
- 1	2 rd		
	Siù	Numerical problems PRACTISE	
	4th	REVISION	
	1st	REVISION	
	2nd	REVISION	
15 TH			
	3rd	REVISION	
	4th	REVISION	

SINo.	Author Name	Name of the Book
1		
2		
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-: LESSON PLAN:-

Discipline:- M.E	Semester: 3 rd	Name of the teaching faculty:- Divya Prakash neith Tiward
Subject. SOM	No. Of days / per week class allotted:- 4	Semester 3 ^{rcol} from date: US-69.22 To Date: 21-61.23 No. Of weeks:- 15
Week	Class day	TOPICS
2	1st	Types of load, stresses & strains
1 ^{s⊤}	2nd	strains,(Axial and tangential) Hooke's law, Young's modulus
	3rd	bulk modulus, modulus of rigidity, Poisson's ratio,
	4th	derive the relation between three elastic constants,
	1st	Principle of super position, stresses in composite section
2 ND	2nd	Temperature stress, determine the temperature stress in composite bar (single core)
	3rd	Strain energy and resilience, Stress due to gradually applied, suddenly applied and impact load
	4th	Simple problems on above.
	1st	Definition of hoop and longitudinal stress, strain
2 RD	2nd	Derivation of hoop stress, longitudinal stress
	3rd	hoop strain, longitudinal strain and volumetric strain
	4th	Computation of the change in length, diameter and volume
	1st	Simple problems on above
a TH	2nd	Simple problems on above
4	3rd	Simple problems on above
	4th	Simple problems on above
	1st	Determination of normal stress
EL		

5'H	2nd		
	2.110	shear stress and resultant stress on obligue plane	
	3rd	Location of principal to the	
	4th		
		Location of principal plane and computation of principal stress	
	İst	Maximum shear stress using Mohr's circle	
6 ^{тн}	2nd	Types of here when a solution	
	2	Types of beam and load	54
	510	Concepts of Shear force and bending moment	
	4th	Shear Force and Bending moment di	
	1st	ite estimate and bending moment diagram	
		its salient features illustration in cantilever beam	
7 TH	2nd	simply supported beam and over hanging beam under point (
	3rd	uniformly distributed load	
	4th	substantificities in the theory of bending,	-
		Bending equation	
	1st	Moment of resistance	
oTH	2nd	Section multiple	
8	2	Section modulus& neutral axis	
	3rd	Solve simple problems	
	4th	Solve simple problems	
	1st	Define column	
	2		
9 TH	2nd	Axial load, Eccentric load on column	
	3rd	Direct stresses	
	4th	Ponding	
		bending stresses	
10 TH	Ist	Maximum& Minimum stresses	
	2nd	Numerical problems on above	
	3rd		
	510	Numerical problems on above	
	4th	Numerical problems on above	
1 TH	1st	Buckling load computation using 5 hords	
		Columns	-
	2nd	Buckling load computation using Euler's formula (no derivation) in	
	3rd	Assumption of pure torsion	
	4th	Assumption of	4
		Assumption of pure torsion	

19			1
12 TH	1st	The torsion equation for solid and hollow circular shaft	
	2nd	Comparison between solid and hollow shaft subjected to pure torsion	
	3rd	Numerical problems PRACTISE	
	4th	Numerical problems PRACTISE	
13 TH	1st	Numerical problems PRACTISE	
	2nd	Numerical problems PRACTISE	
	3rd	Numerical problems PRACTISE	
14 TH	4th	Numerical problems PRACTISE	
	1st	Numerical problems PRACTISE	
	2nd	Numerical problems PRACTISE	
	3rd	Numerical problems PRACTISE	
	4th	REVISION	
15 TH	1st	REVISION	
	2nd	REVISION	
	3rd	REVISION	
	4th	REVISION	
	1		5 M

SINO	Author Name	Name of the Book
Silve.		
1		
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