



عناوين مشاريع المرحلة الرابعة قسم هندسة تقنيات ميكانيك القوى للعام الدراسي 2020-2019

ت	العنوان	اسماء الاساتذة المشرفين	الهدف من المشروع	خطوات العمل	اسماء الطلبة	عدد الطلبة
1	A practical study for the performance of water-cooled solar cells	أ.م.د. ظافر مانع حاجم	Improving the performance of solar cells and increasing their efficiency, by using the heat of the underground in the cooling process	Complete the solar panel cooling system that was implemented by the fourth stage students for the academic year 2018-2019	1. محمد مهدي مطلق 2. علي توفيق 3. احمد عقيل 4. اثير خليل 5. اشرف كاظم 6. مصطفى عامر	6
2	Design and build smart umbrellas with a USB charging connected using solar energy	أ.م.د. ظافر مانع حاجم	Providing smart umbrellas in the college square used to sit and provide charging for mobile phones and computers	Integrated system design consisting of iron frame, solar panels and batteries, in addition to LED lights and USB charging socket for mobile phones and computers	1. حسنين عبد الرحمن 2. ياسر فؤاد 3. فارس رزاق 4. محمد علاء 5. فاطمه خالد 6. غدير باسم 7. علي محمد	7
3	Study performance of a small scale of Savonius type vertical axis wind turbine.	م.د. بلاسم عبد الامير جبار	a. To investigation in using of wind turbine as one of source of renewable energy to produce electrical power in Iraq. b. To enhance the performance of a Savonius type Vertical Axis Wind Turbine (VAWT) by develop the geometry design.	c. Identify the previous studies models VAWT by verifying using ANSYS CFX. d. Develop the turbine blades geometry then modeled using Solid Works. e. Evaluate the performance in a range of wind velocity in terms of power coefficient. f. Performance comparison of the modified and previous design in terms of power coefficient and torque coefficient.	1. سري امجد 2. زينب علي 3. عباس حسين 4. نيا فاضل 5. عبدالله جاسم	5
4	Evaluation of Heat Transfer Effects on Turbocharger Performance	م.م. حيدر علي عبد الحسين	To Investigation effect the different levels of heat transfer from the turbine to the compressor have been obtained through cooling of the turbocharger center housing and by testing in hot and cold test stands.	a- By using the ANSYS program, exhaust gases are introduced to the turbine at different temperatures to obtain the power generated by the turbine. b- Finding the heat transfer levels from the turbine c- Finding the relationship between the amount of heat transfer to the turbine with the power generated	1. مهدي صالح 2. محمد تكليف 3. منتظر ماجد 4. بشري محسن 5. ندى مهدي	5
5	Study of Operating Temperature Influence on Solar PV Panel Efficiency In Najaf City	م.د. صلاح مهدي صالح	I-Experimental testing of PV panel temperatures. ii- Calculating of PV panel temperature difference and output voltage. iii- Studying the PV panel temperature on its efficiency.	i-Five temperature sensors for measuring. ii- Multimeter tool measurement. iii- Temperatures and output performance analysis.	1. أبو الفضل زين العابدين 2. زهراء محمد 3. حسن عبد الخالق 4. نور علي 5. أمجد قاسم	5

10	<p>1. حسين علاء رحيم 2. محمد هاشم محمد 3. حسن سامي عبدالامير 4. أحمد عبدالزهره 5. حسين عليوي عبدالرضا 6. سجاد علي جواد 7. حوراء خلف 8. زينب خضير 9. عبدالمهدي حميد 10. علاء عبدالحسن غضب</p>	Desing and constraction of all compoent of the device from simple part can get it from old engine	<p>1. manufacturing this device to testing ignition control unit of automotive engine with low cost 2. Diagnosis the fults in ignition control unit of automotive engine</p>	أ.م.د. ظافر مانع حاجم	Design and manufacturing of device used to test ignition control unit of automotive engine.	6
5	<p>1. كزار حيدر جليل 2. مريم سالم عباس 3. حيدر كاظم 4. بنين قاسم 5. علي قيس</p>	<p>The studies reported in the literature emphasize the influence of the cooling system on other engine operation such as exhaust emission, fuel consumption and engine wear. In this context, much work has been done with the purpose of improving the coolant jacket design and components of the cooling system to achieve higher performance. (Some of these studies) Previous researches have shown the possibility of achieving higher engine efficiency and performance with higher coolant temperature. This project aims at understanding the coolant flow behavior in the coolant jackets of a diesel engine and investigating the possibility of running the engine at higher coolant temperatures by predicting the temperature distribution of the structure which is required for the assessment of the durability of the engine components. In this project, CFD (Computational Fluid Dynamics) and FE (Finite Element) techniques are used to study coolant flow in the coolant jackets and to predict the temperature distribution within the engine structure respectively.</p>	In the process of engine design, it is important for the engine designer to predict the accurate component temperatures. Controlling the temperature of engine components requires a better understanding of the coolant behavior in the coolant jacket of an engine which is critical to internal combustion engine design	ا.م.د. منتظر محمد الموسوي	Coupling of CFD analysis of the coolant flow with the FE thermal analysis of a diesel engine	7
5	<p>1. علي عيسى 2. حسين ظاهر 3. فيصل مجيد 4. زينب محمد 5. بنين عبد الامير</p>	The cooling water at 18°C used in the cooling coils of ceiling cooling system can be ground water, tap water or the cooled water from cooling towers in the summer. This new air-conditioning system and existing all outdoor air evaporative cooling system are applied to a project in the city of Najaf. Energy consumption analysis of the building is carried out using the energy consumption code. Velocity and temperature distribution in the air-conditioned zone is computed using CFD. According to the results, the energy consumption and indoor human thermal comfort of both systems are then compared. It is concluded that the new system occupies less building space, reduces energy consumption, improves indoor human thermal comfort and saves initial investment.	Due to such disadvantages as large air duct and high energy consumption of the current all outdoor air evaporative cooling systems used in the dry region of Najaf, as well as the superiority of the ceiling cooling system in improving thermal comfort and saving energy, a combined system is presented in this paper. It combines an evaporative cooling system with ceiling cooling, in which the evaporative cooling system handles the entire latent load and one part of the sensible loads, and the ceiling cooling system deals with the other part of sensible loads in the air-conditioned zone, so that the condensation on radiant panels and the insufficiency of cooling capacity can be avoided.	ا.م.د. منتظر محمد الموسوي	CFD Simulation and Analysis of the Combined Evaporative Cooling and Radiant Ceiling Air-conditioning System	8

5	1.كرار كريم حسن 2. سلام باسم 3. علي باسم 4. حسن جاسب 5. مبین عبد الجبار	Acquainting the student with the effect of engine speed, cab temperature, and air conditioning on cooling performance	م.د. ياسل نوري عبد مرزة	Study the effect of some factors affecting cooling performance in a vehicle	9
5	1. حميد باقر 2. هدى راضي 3. اسماء جاسم 4. ماسي علي 5. اوس حسن جبار عبد	Acquainting the student with the types of solar Collectors, studying them and the most suitable for home use.	م.د. ياسل نوري عبد مرزة	Theoretical study of the types of solar Collector, the most suitable of them for the purposes of heating water in Iraqi airspace	10
5	1. سجاد عامر 2. حسنين عبد الهادي 3. علي مهدي 4. غاده علي 5. زهراء معين	using Mathmatical model tocontrol of solar energy system	ا. م. د. احمد عبد السادة الجياشي	Using nonlonear control for solar energy tracking system	11
5	1. حسنين غني حبيب 2. زيد مكي 3. مصطفى حامد 4. فاطمه سعد زغير 5. حسين نجم	Using of Digital multimeter and scan tool for diagnosing. ii- Signal voltage measuring . iii- Testing procduer to eliminate the root cause of problem.	م.د.صلاح مهدي صالح I-Understanding the sensors construction and its types . II- Troubleshooting methods for engine sensors inspecting.	Diagnosing of Faults Senesors System in Gasoline Engines	12