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Fifth Semester B.E. Degree Examination, Dec.09/Jan.10
Management and Entrepreneurship

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting
at least TWO questions from each part.**

PART – A Management

- 1 a. What is the scope of management? (05 Marks)
b. Bring out the differences between management and administration. (05 Marks)
c. Explain modern approaches to management. (10 Marks)
- 2 a. Explain the planning process. (05 Marks)
b. What are different types of plans? Explain. (05 Marks)
c. What are major drawbacks in planning? Explain. (10 Marks)
- 3 a. What are principles of organization? (05 Marks)
b. Bring out differences between centralization and decentralization of authority. (05 Marks)
c. Explain recruitment and selection process. (10 Marks)
- 4 a. Explain Maslow's theory of motivation. (05 Marks)
b. Explain any two types coordination techniques. (05 Marks)
c. Are leaders made or born? Justify. (10 Marks)

PART – B Entrepreneurship

- 5 a. Explain the meaning of 'Entrepreneur'. (04 Marks)
b. What are the functions of an 'Entrepreneur'? Explain. (06 Marks)
c. Briefly describe the role of entrepreneurs in economic development. (06 Marks)
d. Mention barriers to 'Entrepreneurship'. (04 Marks)
- 6 a. What are the objectives of SSI? Explain. (05 Marks)
b. Briefly write about government support to small scale enterprises, during five year plans. (10 Marks)
c. Explain advantages of WTO. (05 Marks)
- 7 a. Mention important central and Karnataka state government institutions providing support to SSIs. (05 Marks)
b. Write notes on any two:
i) Small Industries Development Organization (SIDO).
ii) National Small Industries Corporation limited (NSIC).
iii) Small Industries Development Bank of India (SIDBI). (10 Marks)
c. What are aims, objectives and functions of KIADB? (05 Marks)
- 8 a. Explain the need and significance of a project report. (05 Marks)
b. What are the guidelines by planning commission for a project report? Explain. (08 Marks)
c. Describe the project management technique 'PERT'. What are the advantages and the disadvantages of this technique? (07 Marks)

Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or Equations written eg, 42+8=50, will be treated as malpractice.

Fifth Semester B.E. Degree Examination, Dec.09/Jan.10
Design of Machine Elements - I

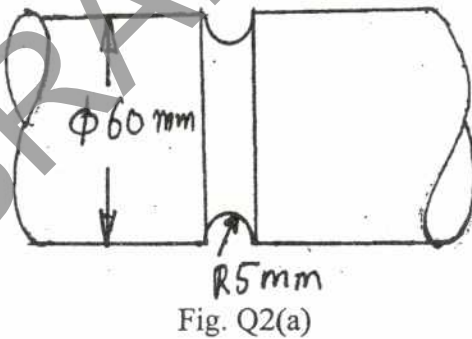
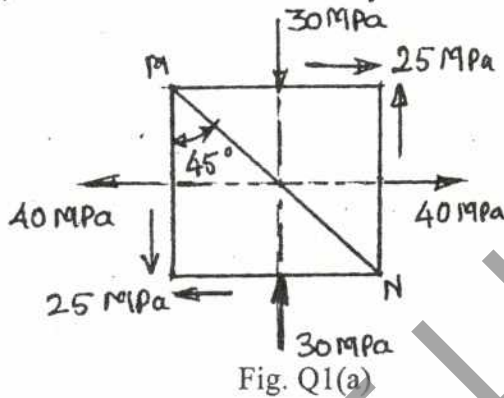
me: 3 hrs.

Max. Marks:100

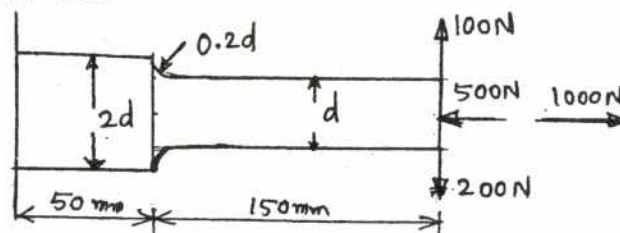
Note: 1. Answer any FIVE full questions, choosing at least two from each part.
 2. Use of machine design data hand book is permitted.

PART-A

1. a. A point in a structural member subjected to plane stress is shown in Fig. Q1(a). Determine the following :
- Normal and tangential stress intensities on a plane inclined at 45° .
 - Principle stresses and their directions.
 - Maximum shear stress and the direction of plane on which they occur. (10 Marks)
- b. A steel shaft is subjected to a bending moment of 9 kN m and a twisting moment of 12 kNm. The yield strength of steel is 360 MPa in tension and compression and the Poisson's ratio is 0.3. If a factor of safety of 2 with respect to failure is specified, determine the permissible diameter of the shaft according to -
- Maximum shear stress theory of failure
 - Maximum normal stress theory of failure
 - Maximum distortion theory of failure. (10 Marks)



2. a. Determine the maximum stress induced in the semi circular grooved shaft shown in Fig. Q 2(a), if it is subjected to -
- An axial load of 40 kN
 - A bending moment of 400 N m
 - A twisting moment of 500 Nm. Take the stress concentration into account. (10 Marks)
- b. A weight 600 N drops through a height of 20 mm and impacts the center of 300 mm long simply supported circular cross section beam. Find the diameter of the beam and the maximum deflection, if the allowable stress is limited to 90 MPa. Neglect the inertia effect and take $E = 200$ GPa. (10 Marks)
3. A ground steel cantilever member shown in Fig. Q3 is subjected to a transverse load at its free end that varies from 100 N up to 200 N down as an axial load varies from 500 N compressions to 1000 N tension. Determine the required diameter of the section using a factor of safety 2. The strength properties of the material are : ultimate strength = 550 MPa, yield strength = 480 MPa and endurance limit = 270 MPa. (20 Marks)



- 4 a. The cylinder head of a reciprocating air compressor is held in place by ten bolts. The total joint stiffness is four times the total bolt stiffness. Each bolt is tightened to an initial tension of 5 kN. The total external force acting to separate the joint is 20 kN. Find the size of the bolts so that the stress in bolts is not to exceed 100 MPa. (08 Marks)
- b. A radial drilling machine with circular base is mounted to a base plate by means of three steel bolts equally spaced on a bolt circle diameter of 0.3m. The diameter of the circular base is 0.4m. The spindle is positioned at a radial distance of 0.335 m from the centre of the column. During drilling operation, the spindle is subjected to a force of 4.5 kN. Determine the size of the bolts, if the allowable stress in bolt material is limited to 100 MPa. (12 Marks)

PART-B

- 5 A shaft is supported between two bearings located 0.6 m apart. Gear 'A' of pitch circle diameter 0.1 m is keyed to the shaft 0.1m to the right of the left bearing. Gear 'B' of 0.15 m diameter is keyed to the shaft 0.3 m to the right of the left bearing. Another gear 'C' of pitch circle diameter 0.08 m is keyed to the shaft 0.1m to the left of the right bearing. Gear 'B' receives 10 kW power at 500 rpm from a mating gear mounted directly below it. Gear 'A' delivers 6 kW power to another gear mounted directly in front of it, such that the tangential force acts vertically upwards. The gear 'C' delivers the remaining power to its mating gear mounted directly behind it, such that the tangential force acts vertically downwards. All gears are of 20° full depth involute form. The shaft is made of steel which has an ultimate strength of 510 MPa and a yield strength of 330 MPa. Determine the required diameter of the shaft under steady load condition using ASME code. (20 Marks)
- 6 a. Design a knuckle joint to connect two mild steel rods to sustain an axial pull of 150 kN. The pin and the rods are made of same material. Assume the working stresses in the material as 80 MPa in tension, 40 MPa in shear and 120 MPa in crushing. (10 Marks)
- b. Design a bushed pin type flexible coupling to connect a motor shaft to a pump shaft transmitting 20 kW power at 1440 rpm. The allowable shear and crushing stress for steel shafts, keys and pins are 40 MPa and 80 MPa respectively. The allowable shear stress for the cast iron flange is 10 MPa and the allowable bearing pressure for rubber bush is 0.5 MPa. (10 Marks)
- 7 a. Design a longitudinal double riveted double strap butt joint with unequal straps for a pressure vessel. The internal diameter of the pressure vessel is 1 m and is subjected to an internal pressure of 2.2 N/mm². The pitch of the rivet in the outer row is to be double the pitch in the inner row. The allowable tensile stress in the plate is 124 N/mm². The allowable shear and crushing of the rivets are 93 N/mm² and 165 N/mm² respectively. The resistance of the rivets in double shear is to be taken as 1.875 times that of single shear. (10 Marks)
- b. One end of a rectangular bar of 120 mm × 70 mm cross section is welded to a vertical support by four fillet welds along its circumference. A steady transverse load of 10 kN is applied at the free end of the bar of length 160 mm and is parallel to 120 mm side. Determine the size of the weld, if the allowable stress in the material is limited to 115 Mpa. (10 Marks)
- 8 a. Explain overhauling of screws. Derive the condition for self locking of square thread with collar friction. (05 Marks)
- b. A single start square threaded power screw is used to raise a load of 120 kN. The screw has a mean diameter of 24 mm and four threads per 24 mm length. The mean collar diameter is 40 mm. The coefficient of friction is estimated as 0.1 for both the thread and the collar.
- i) Determine the major diameter of the screw
 - ii) Estimate the screw torque required to raise the load
 - iii) Estimate over all efficiency
 - iv) If collar friction is eliminated, what minimum value of thread coefficient is needed to prevent the screw from overhauling? (15 Marks)

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Fifth Semester B.E. Degree Examination, Dec.09-Jan.10
Dynamics of Machines

Time: 3 hrs.

Max. Marks:100

- Note:1. Answer any FIVE full questions, choosing atleast TWO questions form each part.**
2. Use of drawing sheets is permitted.

PART – A

- 1 a. A body shown in fig.Q1(a) is subjected to three forces F_1 , F_2 and F_3 . State the conditions for the static equilibrium of the body. If force F_1 is completely known, F_2 known in direction only and F_3 is completely unknown, explain how the problem can be solved. (05 Marks)
- b. For the mechanism shown in fig.Q1(b), find the magnitude and direction of input torque T_2 for the static equilibrium. Take $AB = 70\text{mm}$, $BC = 150\text{mm}$, $BD = 100\text{mm}$ and $CD = 70\text{mm}$, $\angle ABC = 90^\circ$. Also determine the forces at pinjoints A, B and C. (15 Marks)

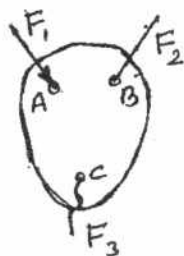


Fig. Q1(a)

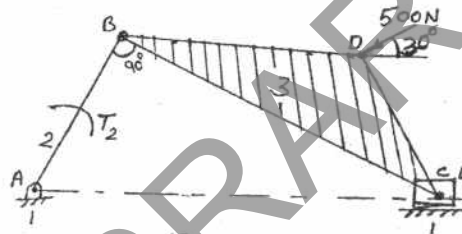


Fig. Q1(b)

- 2 a. Derive an expression for the maximum fluctuation of energy of a flywheel in terms of mean kinetic energy and coefficient of fluctuation of speed. (05 Marks)
- b. The torque delivered by a two stroke engine is represented by $T = (1000 + 300 \sin 2\theta - 500 \cos 2\theta) \text{ N-m}$, where θ is the angle turned by the crank from inner dead center. The engine speed is 250 rpm. The mass of the fly wheel is 400kg and radius of gyration is 400mm. Determine i) the power developed ii) the total percentage fluctuation of speed iii) the angular acceleration of flywheel when the crank has turned through an angle of 60° from IDC. (15 Marks)
- 3 a. Define static and dynamic friction and state the laws of dry friction. (06 Marks)
- b. A leather belt is required to transmit 9 kW from a pulley 1.2m in diameter running at 200 rpm. The angle embraced is 165° and the coefficient of friction between leather belt and pulley is 0.3. The safe working stress for the leather belt is 1.4N/mm^2 , the mass of leather is 0.001 gm/mm^3 and the thickness of the belt is 10mm. Determine the width of the belt taking centrifugal tension into account. (14 Marks)
- 4 a. What do you mean by static balancing and dynamic balancing? (06 Marks)
- b. A shaft carries four rotating masses A, B, C and D which are completely balanced. The masses B, C and D are 50kg, 80kg and 70kg respectively. The masses C and D make angles of 90° and 195° respectively with mass B in the same sence. The masses A, B, C and D are concentrated at radius 75mm, 100mm, 50mm and 90mm respectively. The plane of rotation of masses B and C are 250mm apart. Determine i) mass A and its angular position ii) Position of planes of A and D. (14 Marks)

PART – B

- 5 A four cylinder vertical engine has cranks 300mm long. The planes of rotation of the first, third and fourth cranks are 750mm, 1050mm and 1650mm respectively from that of the second crank and their reciprocating masses are 150kg, 400kg and 250kg respectively. Find the mass of the reciprocating parts for the second cylinder and the relative angular positions of the crank in order that the engine may be in complete primary balance. If each connecting rod of all four cylinders is 1.35m long and the speed is 300rpm, find the maximum unbalanced secondary force and couple. (20 Marks)
- 6 a. Define the following terms in connection with governors : i) Sensitiveness
ii) Isochronism iii) Governor effort and iv) Governor power. (08 Marks)
b. The mass of each ball of a Hartnell type governor is 1.4kg. The length of ball arm of the bell – crank lever is 100mm whereas the length of arm towards sleeve is 50mm. The distance of the fulcrum of bell – crank lever from the axis of rotation is 80mm. The extreme radii of rotation of the balls are 75mm and 112.5mm. The maximum equilibrium speed is 6% greater than the minimum equilibrium speed which is 300rpm. Determine i) stiffness of the spring and ii) equilibrium speed when radius of rotation of the ball is 90mm. Neglect the obliquity of the arms. (12 Marks)
- 7 a. With neat sketches, explain the effect of gyroscopic couple on pitching, steering and rolling of a ship. (06 Marks)
b. A four – wheeled trolley car has a total mass of 3000 kg. Each axle with its two wheels and gears has a total M.I of 32 kgm^2 . Each wheel is of 450mm radius. The centre distance between two wheels is 1.4m. Each axle is driven by a motor with speed ratio of 1:3. Each motor along with its gear has a moment of inertia of 16 kg-m^2 and rotates in the opposite direction to that of axle. The center of mass of the car is 1m above the rails. Calculate the limiting speed of the car when it has to travel around a curve of 250m radius without the wheels leaving the rails. (14 Marks)
- 8 The following particulars relate to a symmetrical tangent cam having a roller follower :
Minimum radius of the cam = 40mm ; Lift = 20mm ; Speed = 360 rpm ; Roller diameter = 44mm ; Angle of ascent = 60° . Calculate the acceleration of the follower :
i) at beginning of lift ii) when the roller just touches the nose. (20 Marks)

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Fifth Semester B.E. Degree Examination, Dec.09/Jan.10
Energy Engineering

Time: 3 hrs.

Max. Marks:100

Note: 1. Answer any FIVE full questions, selecting at least TWO questions from each part.
2. Assume missing data, if any, suitably.

PART – A

- 1
 - a. Explain with sketch over feed and underfeed principle of firing coal. (06 Marks)
 - b. List the requirements of pulverized coal burners. Sketch and explain a cyclone burner with advantages and disadvantages. (08 Marks)
 - c. Describe with a sketch working of Multi-Retort Stoker (M.R.S.) (06 Marks)
- 2
 - a. With schematic sketches give brief account of Velox and Benson steam generator. (06 Marks)
 - b. Explain the working of forced draft and induced draft cooling towers with sketches. (06 Marks)
 - c. Estimate the height of a chimney required to produce a static draft of 18 mm of water if the mean temperature of the flue gases in the chimney is 260°C and the temperature of outside air is 25°C. The densities of atmospheric air and the flue gases at N.T.P. are 1.293 and 1.34 kg/m³ respectively. (04 Marks)
 - d. Briefly explain the function of air-preheater and superheaters in thermal power plant. (04 Marks)
- 3
 - a. Sketch and explain briefly a plant layout for diesel power station showing all the required equipments. (08 Marks)
 - b. Why cooling of diesel engine is necessary? Give for important functions of lubrication system. (04 Marks)
 - c. Write a short note on application of diesel engine in power field. (04 Marks)
 - d. Sketch and briefly explain air exhaust system. What care is taken while designing exhaust system? (04 Marks)
- 4
 - a. Classify hydro-electric plants. Sketch and explain pumped storage power plant. (04 Marks)
 - b. Briefly describe with a sketch drum gate and needle valve used in hydro-electric plant. (06 Marks)
 - c. Mean monthly discharge for 12 months at a particular site of a river is tabulated below.

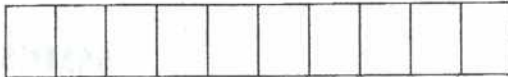
<u>Month</u>	<u>Discharge in millions of m³ per month</u>
April	500
May	200
June	1500
July	2500
August	3000
September	2400
October	2000
November	1500
December	1500
January	1000
February	800
March	600

Draw :

- i) Hydrograph and flow duration curve for the given discharges and find the average monthly flow.
- ii) Power available at mean flow of water, if the available head is 80 mts. at site and overall efficiency is 80%. Take 30 days in a month. (10 Marks)

PART – B

- 5 a. Describe with sketch, working principle of pressurized water reactor highlighting its advantages and disadvantages. (08 Marks)
- b. Explain:
 - i) Thermal utilization factor
 - ii) Multiplication factor. (04 Marks)
- c. Draw a sketch showing different components of nuclear reactor. Explain the moderator stating its advantages and disadvantages. (08 Marks)
- 6 a. With a sketch explain the working of an instrument used to measure global radiation of solar energy. (08 Marks)
- b. Sketch and explain the principle of working of solar pond. (06 Marks)
- c. Calculate the local apparent time (LAT) corresponding to 13.30 hrs. (IST) on July 16, 1998 at Delhi ($28^{\circ}35'N$, $77^{\circ}12'E$). The equation of time correction on July 16 is (-6) minutes. Indian Standard Time (IST) is the local civil time corresponding to $82^{\circ}5'E$ longitude. Also calculate the declination. (06 Marks)
- 7 a. Explain the principle of working of OTEC. Explain with a sketch, Rankine cycle OTEC plant. (08 Marks)
- b. Describe low and high tides. What are the different techniques of harnessing tidal energy? (06 Marks)
- c. With a sketch explain the working of "Hot dry rock" geothermal plant. (06 Marks)
- 8 a. List the factors affecting biogas generation. (04 Marks)
- b. Write short notes on:
 - i) Anaerobic fermentation
 - ii) Photosynthesis. (08 Marks)
- c. Explain with sketch how biogas is produced in an Indian type biogas plant. (08 Marks)



Fifth Semester B.E. Degree Examination, Dec.09-Jan.10
Turbo Machines

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each Part.

PART - A

- 1
 - a. Distinguish between a turbo machine and a positive displacement machine. (06 Marks)
 - b. Using Buckingham's π theorem, show that the discharge Q consumed by an oil ring is given by $\phi = N d^3 \phi \left[\frac{\mu}{\rho N d^2}, \frac{\sigma}{\rho N^2 d^3}, \frac{\omega}{\rho N^2 d} \right]$; where 'd' is the internal diameter of ring, 'N' is rotational speed, 'ρ' is the density, 'μ' is viscosity, 'σ' is surface tension and 'ω' is the specific weight of oil. (10 Marks)
 - c. A hydraulic turbine has a head of 9m and average discharge of 11,200 lits/S for a generator speed of 200 rpm. What is the specific speed of the turbine? Assume efficiency = 92%. (04 Marks)

- 2
 - a. Define degree of reaction (R). For an inlet blade angle of 45° , blade speed at exit as twice of that at inlet and an inlet whirl velocity of zero value, prove that $R = \frac{2 + \cot \beta}{4}$ for a radial outward flow turbine, where R is the degree of reaction and β is the blade angle at exit. (10 Marks)
 - b. In an inward flow turbine, the water falls with a velocity of 30m/s on a runner with a series of curved vanes. The runner rotates at 280rpm. The vanes have inlet and outlet diameters of 1.7m and 0.85m respectively. The angle the guide vanes make with the periphery of the wheel is 30° . The water after doing work on the runner discharges with an absolute velocity of 3m/s at an angle of 130° to the wheel tangent. Find the power developed by the runner if the rate of flow is 380 lits/S. Also find the vane angles at inlet and outlet. (10 Marks)

- 3
 - a. Define utilization factor of a turbine. Derive an expression relating utilization factor with degree of reaction. (10 Marks)
 - b. In a turbine stage with 50% reaction, the tangential blade speed is 98.5 m/s. The steam velocity at the nozzle exit is 155 m/s and the nozzle angle is 18° . Assuming symmetric inlet and outlet velocity triangles, compute the inlet blade angle for the rotor and the power developed by the stage for a flow rate of 10kg/s. Also find the utilization factor (ϵ). (10 Marks)

- 4
 - a. Define the term 'infinitesimal' stage efficiency of a turbine. Show that the polytropic efficiency during the expansion process is given by $\eta_p = \frac{\ln \left(\frac{T_2}{T_1} \right)}{\frac{v-1}{v} \ln \left(\frac{P_2}{P_1} \right)}$. (08 Marks)
 - b. Air enters a compressor at a static pressure of 1.5bar, a static temperature of 15°C and a flow velocity of 15m/s. At the exit, the static pressure is 3 bar, the static temperature is 100°C and the flow velocity is 100m/s. The outlet is 1m above the inlet. Evaluate i) the isentropic change in enthalpy ii) the actual change in enthalpy and iii) efficiency of compressor. (08 Marks)
 - c. Write a note on Mach number. (04 Marks)

PART – B

- 5 a. With a neat schematic diagram, explain an axial flow compressor. Also sketch, the general velocity triangles for an axial flow compressor. (10 Marks)
- b. A centrifugal compressor runs at 15,000 rpm and produces stagnation pressure ratio of 4 between the impeller inlet and outlet. The stagnation conditions of air at the compressor intake are 1 bar and 25°C respectively. The absolute velocity at the compressor intake is axial. The compressor has radial blades at the exit, such that the relative velocity at the exit is 135m/s and the total-to-total efficiency of the compressor is 0.78. Draw the velocity triangles at the exit of the rotor and compute the slip as well as slip coefficient. Take rotor diameter at outlet as 58cm. (10 Marks)
- 6 a. Define the following with respect to centrifugal pumps : i) Overall efficiency ii) Static head iii) Manometric head iv) Net positive suction head v) Manometric efficiency. (10 Marks)
- b. For a centrifugal pump, show that the pressure rise in the impeller neglecting the friction and other losses is given by $\frac{1}{2g} [V_{f_1}^2 + u_2^2 - V_{f_2}^2 \text{cosec}^2 \phi]$ where V_{f_1} and V_{f_2} are velocities of flow at inlet and outlet, u_2 is tangential velocity of impeller at outlet and ϕ is vane angle at outlet. (10 Marks)
- 7 a. What is the necessity for compounding steam turbines? Discuss any two methods of compounding with neat sketches. (10 Marks)
- b. Steam issues from the nozzle of a DeLaval turbine with a velocity of 1200m/s. The nozzle angle is 20° and the mean blade velocity is 400m/s. Inlet and outlet angles are equal. Mass of steam flowing through the turbine is 900 kg/h. Calculate i) blade angles ii) relative velocity of steam entering the blades iii) tangential force on the blades iv) power developed v) blade efficiency. Assume $K = 0.8$. (10 Marks)
- 8 a. Draw a neat sketch of Francis Turbine. Explain the function of draft tube. Also draw the typical velocity triangles of Francis turbine. (08 Marks)
- b. A pelton wheel is working under a gross head of 400m. The water is supplied through penstock of diameter 1m and length 4km from a reservoir to pelton wheel. The coefficient of friction for the penstock is given as 0.008. A jet of water of diameter 150mm strikes the buckets of the wheel and gets deflected through an angle of 165°. The relative velocity of water at outlet is reduced by 15%, due to friction between inside surface of the bucket and water. If the velocity of the buckets is 0.45 times the jet velocity at inlet and mechanical efficiency is 85%, determine i) power given to the runner ii) shaft power iii) hydraulic efficiency and iv) overall efficiency. (12 Marks)

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Fifth Semester B.E. Degree Examination, Dec.09/Jan.10
Engineering Economics

Time: 3 hrs.

Max. Marks:100

Note: 1. Answer any FIVE full questions, selecting at least TWO questions from each part.

2. Use of discrete interest factors table is allowed.

PART – A

- 1
 - a. Discuss why engineers have to be more concerned, with economics now-a-days. (06 Marks)
 - b. Explain how the problem solving process, leading ultimately to decision making, is carried out, with a neat block diagram. (08 Marks)
 - c. Explain the concept of law of supply and demand. (06 Marks)
- 2
 - a. Briefly explain the time value of money. (05 Marks)
 - b. If you deposit Rs. 25,000 today, what equal amounts can you withdraw at the end of each quarter for the next 4 years, when the nominal interest rate is 10%? (05 Marks)
 - c. Deduce an expression for equal payment series sinking fund factor, with the necessary cash flow diagram. (10 Marks)
- 3
 - a. Explain the conditions for present worth comparisons. (10 Marks)
 - b. An investor can make three end-of-year payments of Rs. 15,000, which are expected to generate receipts of Rs. 10,000 at the end of year 4 that will increase annually by Rs. 2,500 for the following 4 years. If the investor can earn a rate of returns of 10% on other 8 year investments, is this alternative attractive? (10 Marks)
- 4
 - a. Define the following with respect to life of an asset :
 - i) Ownership life ii) Accounting life iii) Economic life. (10 Marks)
 - b. Two models of small machines perform the same function. Type 1 machine has a low initial cost of Rs. 9,500, relatively high operating costs of Rs. 1,900 per year more than those of the type 2 machine, and short life of 4 years. The more expensive, type 2 machine costs Rs. 25,100 and can be kept in service economically for 8 years. The scrap value from either machine at the end of its life will barely cover its removal cost. Which is preferred when minimum attractive rate of return is 8%? (10 Marks)

PART – B

- 5
 - a. What is depreciation? List and discuss the causes of depreciation. (06 Marks)
 - b. A CNC machine costs Rs. 30,000,000 and is estimated to serve for 8 years after which its salvage value is estimated to be Rs. 2,50,000. Find :
 - i) Depreciation fund at the end of the 5th year by straight-line method and declining balance method. (10 Marks)
 - ii) Book value of the machine after 4th year and 6th year, by declining balance method. (04 Marks)
 - c. Explain how the selling price is fixed for a job, giving all the components of costs, using an example. (04 Marks)
- 6
 - a. What are the sources of finance and financial information? (10 Marks)
 - b. Explain with a suitable examples, profit and loss statement and balance sheet. (10 Marks)
- 7
 - a. List and explain the different types of financial ratios. (10 Marks)
 - b. What are the types of budgets? Explain. (10 Marks)
- 8

Write short notes on :

a. Corporate income tax	c. Profit planning
b. Cash flow diagram	d. IRR misconceptions.

(20 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.