

forces, we have used the well – known solution, which is the following:

$$z = A e^{-bt} \sin(k_1 t + \alpha) + B \cdot \sin(pt + \gamma),$$

where

$$A = \sqrt{\omega^2 f_{ct}^3 / g}, \quad b = \mu / 2m, \quad k \approx k = \sqrt{c/m},$$

$$\alpha = 0, \quad B = h / \sqrt{(k^2 - p^2)^2 + 4 \cdot b^2 p^2},$$

$$h = R_0 / m, \quad p = \omega, \quad \gamma = \arctg(2bp / (k^2 - p^2)).$$

For all this, it has been appeared that the turbine rotor free oscillations' damping is taken its place very slowly, because of the turbine oil's technical properties. And, moreover, the turbine rotor oscillations design characteristics are satisfactorily agreed with the experimental tendencies and the trends, despite of the considered, here, model simplicity.

So, the magnitude of the force  $\bar{R}$  is quite able to be changed from the  $(\bar{P}_0 - \bar{Q}_0)$  up to  $(\bar{P}_0 + \bar{Q}_0)$  value, in the direction, having coincided with  $\bar{P}_0$ , at the third mode of the electric motor operation ( $E > 1$ ). For all this, the bearing shell erasure is taken its place around the whole circumference, and the shaft journal is worn out unilaterally, having increased the distance between the turbine rotor mass center and its rotation axis. So, the shaft journal contact point is moved around the whole circumference, and the shaft journal is always turned to the one side of the bearing. The regime of the shaft journal's progressive wear out and the bearing shell is come.

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#### TO THE PROBLEM OF MODELING OF ACTIVITY OF THE COMPANY FOR PRODUCTION AND SALE OF COMPUTER ENGINEERING

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Methods of mathematical modeling are well acknowledged tool for scientific analysis of complex objects of different nature with a number of internal and external relations. These methods allow formalizing the regularities attributed to these objects at the model level through development of their qualitative abstract form, which offers great opportunities in improving efficiency of generated control actions, as such experiments can be lead on the mathematical model instead of the «live» system.

In turn, the important stage in creating of mathematical model of any company activity, particularly, the one that produce and sell the computer equipment, is development of general model specification, that at the formal level connects the end results of such activity (performance index that define model output) with factors, that affect them (input of the model).

To the input variables we'll attribute: effectiveness, economy, quality, profitability, productivity, operating conditions, introduction innovations.

To the input factors, alongside with resource ones, we'll also include expert information on such variables, as: existence of stable connections with distributors, existence of own warehouses, net assets, abilities to attract credit assets, number of branch offices, number of advertising acts and some other.

In the report detailed model constructions will be presented, realizing mentioned specifications.

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