dure. Such appointments should be immediately stopped if a beginning in reform in higher education has to be made.

The third reason for the deterioration in higher education has been in making it 'mass education'. The politicians and the society at large do not appreciate or probably do not understand that higher education means excellence, which we cannot expect from the masses. Mass education as a general investment goes to waste; this could possibly be usefully spent on the youth of real excellence in the country. The concept of higher education means education for the people of calibre much above the average and so it naturally becomes an elitist-education, meant for only a few of us in the country.

Therefore the proposal of UGC to ask the universities/colleges to make contractual appointments for five years is welcome. One would like to add here that not more than two such appointments as a 'Lecturer' to a person be given in the same institution.

To sum up, one can hope to revive excellence in higher education if the following measures are adopted:

(1) No temporary appointments should be made.
(2) There should be contractual appointment of a lecturer for five years and this should not be more then two times in succession in an institution.
(3) The appointment of lecturers in an institution should be from amongst the postgraduates/Ph Ds of other universities.
(4) For securing promotion as reader/professor it should be mandatory that one should change the institution/university.
(5) The first appointment as reader should also be contractual for five years and the appointment as professor should be a confirmed one.

One therefore expects and hopes that the UGC and the National Educational Planning and Administration will take into consideration the above suggestions for future planning and reform in Science and Technology, if not in other faculties. However, one should appreciate that this contractual appointment may look more or less similar to the appointment on probation as is being done presently, and which in effect is almost automatic confirmation. It should have a mechanism of assessment of the performance of a teacher so that the scheme does not degenerate into merely one of appointment on probation. The proposal of UGC would have credibility if some serious thinking and concerted effort is made on the method of evaluation, and accountability and this also is made public for opinion. The implementation of the scheme is then likely to yield the desired results.

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Reducible iron affects organic matter oxidation and ammonium production in wetland soils and sediments

Due to lack of oxygen, nitrogen mineralization process in submerged soils and sediments (including oceans) halts at ammonium production; and nitrification is at a low ebb[1]. Ammonium production is the key process for meeting the nitrogen requirements of wetland flora and fauna and controls the primary productivity of submerged soils and aquatic sediments. Most wetland soils, especially those in the tropics are rich in iron[2] and redox cycling of iron (Fe) exerts a wide-ranging influence on the biogeochemistry of submerged rice soils and aquatic sediments where iron is abundant[1,3,4]. The purpose of this communication is to bring to attention the role of reducible iron that participates in iron redox reactions (Fe^{3+}/Fe^{2+}), on organic matter oxidation and ammonium production or nitrogen mineralization in submerged soils and sediments. Although most studies have been conducted in submerged rice soils and freshwater sediments, they have relevance to nitrogen nutrition of flora including primary productivity of phytoplankton in oceanic regions. The preparation of the communication was stimulated by the recent interest on side effects of oceanic iron fertilzation[5].

In the absence of oxygen, anaerobes successively use nitrate (NO_3^-), manganese Mn (IV), Fe (III) and sulfate (SO_4^{2-}) as electron acceptors in anaerobic microbial respiration[6]. In most tropical soils and aquatic sediments, Fe is the main electron acceptor[4,7] and thus plays an important role in wetland soils and sediments. Iron occurs as Fe (III) oxides and oxyhydroxides, and in the structure of clay minerals[8]. The reduction of iron is affected by surface chemical reactions and is directly related to the concentration of organic reductant[9]. The reaction can be represented by the equation: $Fe_2O_3 + 1/2CH_2O + 4H^+ = 2Fe^{2-} + 5/2H_2O + 1/2CO_2$. In this reaction, Fe (III) oxides serve as the source of reducible Fe and organic matter (CH_2O) as the source of electron donor. Also, the application of organic matter has an inhibitory effect on the crystallization of amorphous ferric hydroxides and keeps Fe in the amorphous and relatively reducible form[10].

Geological evidence suggests that Fe (III) reduction has been an important process for organic matter oxidation since early in the earth's biotic history. The strong correlation in the occurrence of isotopically light carbonates and magnetite in the Precambrian banded iron formations indicates that organic matter was coupled to Fe (III) reduction in this environment[4]. Studies with freshwater wetland sediments have demonstrated a direct correlation between first-order Fe (III) oxide reduction rate constants and initial rates of organic carbon mineralization as measured by the amount of carbon dioxide and methane accumulated[11].

Studies made with diverse wetland soils showed that ammonium produced under submerged conditions was significantly correlated to organic carbon and reducible Fe (extracted by ammonium oxalate or EDTA solution). It was concluded that organic matter and reducible Fe controlled the release of ammonium in wetland soils where Fe was abundant[12]. It was found that soils rich in both organic carbon and reducible Fe were high in mineralizable N. On the other hand, soils low in organic matter or reducible Fe had lower content of mineralizable N released under submerged conditions[12].

Thus Fe fertilization of Fe-poor oceans will increase the supply of reducible Fe in the ocean which in turn will influence the oxidation of organic carbon and ammonium production, the key process that controls the nitrogen supply to flora and fauna in wetland soils, sediments and oceans.

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Prevention of chronic complications of diabetes mellitus – Does patient education score over treatment?

Diabetes mellitus (DM) has become a common disease that leads to chronic complications like neuropathy, nephropathy, vascular diseases (cardiac, cerebral and peripheral) and retinopathy. World Diabetes Day is celebrated every year on 14 November, which is incidentally the birthday of Frederick Banting, who together with Charles Best discovered insulin in the year 1921. This year's theme of World Diabetes Day was to address retinopathy, one of the complications of DM: 'Your Eyes and Diabetes: Don't Lose Sight of the Risks'.

There is significant rise in the incidence of DM in India. Development of chronic complications is related to the number of years of DM. This is particularly alarming in developing countries like India where life expectancy is increasing rapidly[1]. By the year 2025 India is predicted to have the largest number of people with DM in the world[2]. Many pharmaceutical companies consider India as the 'diabetes capital' of the world. This leads to multiple problems faced by the health personnel, like difficulties in diagnosis and proper management. The total burden of DM is due to two factors:

(1) The number of new cases is increasing due to inherited risk, change in life style (sedentary lifestyle, abnormal eating habits, etc.) and increase in lifespan (increase in age has a higher risk factor for developing DM).
(2) DM patients are living longer because of better treatment modalities, thus preventing acute complications and premature deaths. Because of these impacts there is an increased DM population at a higher risk of developing chronic diabetic complications.

The chronic complications of DM translate into a significant economic burden on the individual and the community because the treatment is expensive. The country may have to pay a heavy price if efforts are not made to improve awareness levels by conducting frequent DM education programmes to general populations, specially to high-risk groups and DM patients. In Mysore, Apoorva Diabetes Foundation (ADF) is conducting awareness camps for the last three years for small groups of 100 to 300 people. During 9–10 November 2002, ADF organized a diabetes exhibition to commemorate World Diabetes Day. It was designed as a three-tier system. The first tier included lectures and interactive sessions. In the second tier, traffic zone concept of diet was presented. Foods to be avoided were displayed in the red zone, foods to be restricted were displayed in the yellow zone and freely consumable foods were displayed in the green zone. The third tier included the facilities available to lead a quality life for DM patients (various companies displayed their products like insulin devices, glucometers, footware for DM patients and specially formulated food products like sweet substitutes and low-calorie foods).

The response from the general public was overwhelming both in number and quality of interaction. It was an eye-opener to the doctors who took part in