Name: **Enrollment Number:**	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, May 2021

Course: Patent Drafting & Specification Writing **Semester: X**
Programme: B. Tech ET LL.B (Hons.) IPR **Time: 03 hrs.**

Course Code: LLBL 524 **Max. Marks: 100**

SECTION A

1. **Each Question carries 5 Marks**
2. **Instruction: Word Limit 150-200 words**

	Write short notes on the following:	**CO**
Q1	Enabling Disclosure requirement in a Patent application	**2**
Q2	Apparatus Claims with example	**1**
Q3	Patent application requirements if Invention uses Biological Material	**4**
Q4	List documents for a Patent application by Startup.	**4**
Q5	Structure of a Claim	**3**
Q6	FER report	**4**

SECTION B

1. **Each Question carries 10 marks**
2. **Word Limit 350-500 words.**

Q7	The controller rejected the patent application on a prior art ground without communicating the same to the applicant. Advise the applicant as to next course of action. Cite relevant legal provisions.	**4**
Q8	Analyse the role and importance of Traditional Knowledge Digital Library during patent prosecution process. Cite relevant international cases where TKDL has been used.	**2**
Q9	Define Patentability search and its functions. Analyse the limits of patentability search.	**1**
Q10	Discuss the contents of complete specification. How is it different from provisional specification? Explain.	**2**
Q11	Inventions relating to medical device face the litmus test –'method of treatment' objection by the examiner during prosecution process in India. Discuss approaches to overcome such objections.	**2**

SECTION C

1. **Each part of the Question carries 10 marks.**

Q12.	**Read the following description carefully and answer the following questions:** This invention is generally related to the field of formulation and use of fertilizer compositions for agricultural use. More specifically, the invention relates to fertilizer compositions that contain viable Bacillus bacteria and decontaminated animal manure. It is well understood that nitrogen (N), the single most important plant nutrient, has been over used in modern agriculture in an effort to encourage maximum plant yields. Nitrogen in the form of soluble nitrates is particularly harmful to the environment since nitrates readily leach out of soil and cause pollution of ground and surface waters. One of the principal goals of agricultural science has been to invent a perfect fertilizer composition that is capable of optimizing food plant production when used at minimum application rates and that, subsequently, will not degrade or adversely affect the soil ecosystem. The present invention attains this goal. Prior art X, claims a biochemical fertilizer but no mention is made of using decontaminated manure as a source of the organic ingredients. Other non-manure organics are indicated. A broad list of microorganisms, listed by genera, is claimed in claim 10, which includes Bacillus, but this claim simply lists all the genera that may contain beneficial microorganisms, not novel as they are listed as such in numerous textbooks, and does not give any specific examples of species with performance data. The need for microbial nutrients is mentioned in claim 14 but these must be part of the microorganism ingredient, not the bulk organic ingredient as in my invention (where decontaminated manure feeds the Bacillus). There is a great but heretofore unmet need Worldwide for technology that permits lower use rates of N while maintaining plant yields. The present invention provides such technology by combining unique ingredients and processing them in such a way as to arrive at potentiated fertilizer compositions capable of effecting substantial benefits in plant production, The novelty of the present invention relates to specific synergisms between the various ingredients and to the processing technology that renders such ingredients functional. In accordance with the present invention, fertilizer compositions that contain viable Bacillus bacteria and decontaminated animal manure are presented. Optionally, these formulations preferably also contain humic acid and N-P-K substances, where N means nitrogenous or nitrogen-containing compounds (organic or inorganic), P indicates phosphorous-containing (organic or inorganic compounds), and K indicates potassium-containing (organic or inorganic compounds), More specifically, the invention concerns compositions comprising at least one species of probiotic Bacillus bacteria that exert a positive effect on the yield of agricultural plantsand/or reduce the nitrogen requirements of agricultural plants, and animal manure that has been decontaminated to reduce the concentration of undesirable microorganisms.	**3**

Thus, a first aspect of the invention is a fertilizer composition for plant production comprised of decontaminated manure and Bacillus spores, and preferably humic acid and, optionally, one or more of N compounds, P compounds, Kcompounds, and combinations of two or more of these compounds (for example two N compounds, an N compound with a P compound, two Kcompounds, or one each of N compound, P compound, and K compound). Preferred compositions are those wherein the ingredients are blended into an admixture resulting in a granular product. Other preferred compositions are those blended into an admixture resulting in a powdered product. Preferably, the ingredients are formed into hardened pellets. The decontaminated manure is preferably derived from manure selected from the group consisting chicken or swine manure, particularly produced without litter or bedding, and produced from animals not receiving growth-promoting antibiotics in their feed.

Other preferred compositions of the invention are those wherein the Bacillus spores are from strains of probiotic Bacillus bacteria capable of enhancing beneficial microbial populations within the rhizosphere. Preferably, the decontaminated manure has a total aerobic/facultative viable plate count reduced by 2-4 logs (100 to 10,000 times) compared to raw manure. Yet other preferred compositions of the invention are those wherein the humic acid is derived from lignite.

As used herein, "humic acid" means a polymeric compound typically containing the brownish-black pigment melanin, and can be obtained from lignite. It is soluble in bases, but insoluble in mineral acids and alcohols. It is not a well-defined compound, but a mixture of polymers containing aromatic and heterocyclic strictures, carboxyl groups, and nitrogen, and is used in drilling fluids, printing inks, and plant growth. See Hawley's Condensed Chemical Dictionary, 12th Edition, (1 993), page 608. As seen in the examples herein, not all humic acids behave in similar fashion. Still other preferred compositions of the invention are those wherein the N compounds are selected from the group consisting of urea, ammonium sulfate, ammonium nitrate, ammonium phosphate, calcium nitrate, potassium nitrate, sodium nitrate; the P compounds are selected from the group consisting of ammonium phosphate, superphosphate, Ca(H2P04)2, tricalcium phosphate, phosphate salts of sodium or potassium, including orthophosphate salts; and the Kcompounds are selected from the group consisting of KCI, potassium sulfate, potassium nitrate, and phosphate salts of potassium, including orthophosphate salts.

Preferred compositions of the invention are those wherein the decontaminated manure has a total aerobic/facultative viable plate count reduced by 2-4 logs (lOa to 10,000 times) compared to raw manure. Still other preferred compositions of the invention are those wherein the N compounds are selected from the group consisting of urea, ammonium sulfate, ammonium nitrate, ammonium phosphate, calcium nitrate, potassium nitrate, sodium nitrate; the P compounds are selected from the group consisting of ammonium phosphate, superphosphate, Ca(H2P04)2, tricalcium phosphate, phosphate salts of sodium or potassium, including orthophosphate salts;

	and the Kcompounds are selected from the group consisting of Kel, potassium sulfate, potassium nitrate, and phosphate salts of potassium, including orthophosphate salts. Decontaminated manures are prepared by methods known in US patent. The fertilizer is prepared by mixing decontaminated manures and other ingredients as discussed above and a suitable amount Bacillus spores. Preferred compositions of the invention are those wherein the decontaminated manure has a total aerobic/facultative viable plate count reduced by 2-4 logs (100 to 10,000 times) compared to raw manure. **a) Draft at least 3 claims for the specification provided above. Label the claims as independent and dependent claims.** **b) Draft a suitable abstract and provide an appropriate title to the specification provided above.**	