**Assignments number 5.**

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**Admission Number: please put here.**

1. Paul, a resident in the outskirts of your town, consults you about building a latrine in the compound of his house. He is an open-minded man who is keen to improve life for his family. He has a wife and three young children, and his elderly mother also lives with them. He doesn’t have a tap in his house and gets water from a nearby well. The area has heavy soil and the rock below is impermeable.

1. Which types of latrine are possible choices for him?

* **Improved latrines with slab.**
* **Pour-flush toilets.**
* **Ventilated improved pit latrines.**
* **Urine-diverting latrines.**

1. Which types of latrine would you recommend, and why?

* **Improved latrines with slab.**

**Why because:**

1. **Its efficient and suitable sanitation system as there isolate the human excrete from the environment as well reduces the immediate transmission of faecal-transmitted diseases.**
2. **Its affordable in cost for constructing it as only used for local materials and local labours skills.**
3. **Properly constructed slabs will easier its cleaning and avoids flies and unpleasantness.**
4. **It avoids contamination of surface water and topsoil if properly installed and maintained.**
5. What other advice would you give him about the location, design and construction of the latrine?

* **Handwashing facilities should be available i.e Soap and clean water.**
* **The squat hole should have feet rests with fitted lid to avoid easy access of flies to the excrete.**
* **The latrines should have good structurally and cleanable floor slab.**
* **The superstructure of latrines should be covered to prevent water rain.**
* **Installation of ventilated pipe to reduce bad smile.**
* **The constructional site of the latrines should be minimum 15M a way from the household living area.**
* **The necessary distance between the pit areas and nearest water sources should be 30-50M a way.**
* **The depth of the pit should not go beyond the depth of the water source or not with some level.**

2. Nancy is a laboratory technician. She is analysing a sample of wastewater collected from a pipe that discharges effluent into a river.

(a) Name two tests Worknesh could perform to assess the physical characteristics of the effluent.

* **Temperature test for physically.**
* **Odour test for physically.**
* **Presence of Solids particles.**

(b)As part of the analysis she also does a BOD test on the sample and gets an unusually high result. What does the high BOD tell her about the wastewater? What effect could it have on the river?

* **Presence of bacteria.**
* **Presence of micro-organisms.**
* **Highly concentrated oxygen.**
* **Effects of all living things in the fresh water by depriving the essential element called OXYGEN.**

3. What is the purpose of the report of a rapid assessment and who should receive copies of the report? Explain the contents of Rapid Assessment Report.

* **The purpose for rapid assessments report is to collect data and information from the household level and institutional centres in order to get clear and quality situational overview information on the background of the target areas thus the result can be used to support the pre-identified constraints on the livelihood aspects on ground, the assessment technics are involved by observations, community discussions, meetings and record reviews to the target households and institutions but not limited.**
* **The purpose for rapid assessment is also used for proper planning and monitoring of the project activities as well as any emergency occurred due to natural hazards.**
* **The copies of the summarised report should be shared with concerned organization bodies.**
* **The content of the report is:**
* **Executive summary.**
* **Key findings.**
* **Recommendations.**
* **Challenges/constraints encountered.**
* **Conclusions.**

1. Explain five ways in which urbanisation creates challenges for effective sanitation and solid waste management.

* **Industries discharges- Developing countries and counties discharges untreated and unprotected liquid wastes to the sewers, rivers or water streams as well the industries releases waste gases that may contain harmful substances and produces solid wastes that may contain hazardous materials thus exploited the environment of living.**
* **Displacements of internally and Externally persons- as all knowing urban centres are always congested naturally and overcrowded thus the susceptibility of land exploitation is very high like haphazardly rubbishes and concrete surfaces through away.**
* **Open defecations- Due to the congested and overcrowdedly residing leads an adequate of sanitation facilities thus will encourage practice of open defecations.**
* **Shared sanitation facilities- Due to insufficient of the sanitation facilities it re-enforces people utilize together the little they had thus the point of ownership, sustainability and maintenance will be lost.**
* **Outbreak of diseases, due to the high congestions’ insufficient sanitation facilities, practice of unimproved facilities, an adequate of water supplies and lack of improper sanitation coverage leads an outbreak of sever diseases like Cholera, typhoid, malaria etc.**

5. How do good sanitation and waste management practices bring a positive effect to urban inhabitants? Give examples for effects on:

1. health

* Good sanitation and waste management practices improves health

1. education.

* **Good sanitation and waste properly managed practices improves the learner’s health status thus mentors the students/pupils to grow properly both intellectual and physical.**
* **Good hygiene and sanitation in the education centres improves learner’s class attendance as he/she has enough energy and free from malnutrition.**
* **According to the presences of institutional latrines in the learning centres improves enrolments, daily attendance, privacy and Eliminate open defecations.**

1. economic conditions

* **sanitation improvements in Urban Inhabitants reduces the amount of money they could expend for medicine.**
* **Improved sanitations reduce practices of open defecations thus decreases the frequencies of AWD.**
* **Good sanitation and hygiene increase the credibility of having energetic labours for employment.**
* **Healthy people are more productive, thus brings more benefits and good income generations to the household economic level.**

1. the environment

* **Properly managed sanitation improves land scape appearance.**
* **The high rate of environmental pollution is strictly reduced if properly managed the discharges of industries.**