

**CANADIAN BOARD OF EXAMINERS FOR PROFESSIONAL SURVEYORS**

**E3 – ENVIRONMENTAL MANAGEMENT**

**October 2021**

**Note: This examination consists of 5 questions on 2 pages. Read Questions Carefully!**

**Marks**

**Q.No**

Time: 3 hours

Value   Earned

1.	<p>An open-pit coal mine has been proposed in the Rocky Mountain foothills (or anywhere else in Canada). The plan is to provide <i>metallurgical</i> coal for the steel-making industry in Asia. Many people are opposed to this proposal. Identify:</p> <p>a) the three most important environmental impacts, and</p> <p>b) how they could be mitigated.</p>	6 14	
2.	<p>A developer is preparing a 20 ha site for residential development. There is a stream running through the property that drains into fish habitat about 2 km downstream. Despite local regulations that protect streams and riparian habitat, an equipment operator encroached on the riparian zone, damaging vegetation and disturbing the banks of the stream. The local government implemented a ‘stop-work’ order and required the developer to submit a plan to restore the site and ensure this doesn’t happen again.</p> <p>Prepare an outline of such a plan. Give the intended outcome for each step.</p>	20	
3.	<p>Outside a mid-sized Canadian city there is an old gravel pit that was abandoned 20 years ago. The area is zoned rural/residential area with maximum lot size of 10 acres most of which are now used as hobby farms and small-scale specialty agriculture. An aggregate company has now purchased the property and wants to restart gravel/sand extraction. The residents in the area are horrified, and have petitioned the local government to disallow the proposal. Imagine you are one of the residents.</p> <p>a) What would be your main concerns?</p> <p>b) What measures could the local government take to alleviate these concerns?</p>	6 14	
4.	<p>How will climate change affect wildlife populations? Select 3 Canadian species (or groups of species: eg: migratory birds) as examples.</p>	20	

5.	<p>A Canadian city has been singled out as having ‘antiquated sewer systems’ which have contributed to water quality deterioration in the Great Lakes. In particular, during heavy rains the system becomes overwhelmed and sewer outflows can spill over into stormwater drains which discharge into natural watercourses. Modernization of the system by replacing existing infrastructure would require an enormous investment (residents already feel overtaxed).</p> <p>What other measures can the city take to reduce this problem, and at the same time to delay the inevitable (and costly) upgrade to the sewer/stormwater system?</p>	20	
	<b>Total Marks:</b>	100	